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August 22, 1960

RAILWAY AGE *weekly*

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Sales drive hums despite pending C&NW purchase

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New Goals for RR Research

What today's needs are ... p. 27

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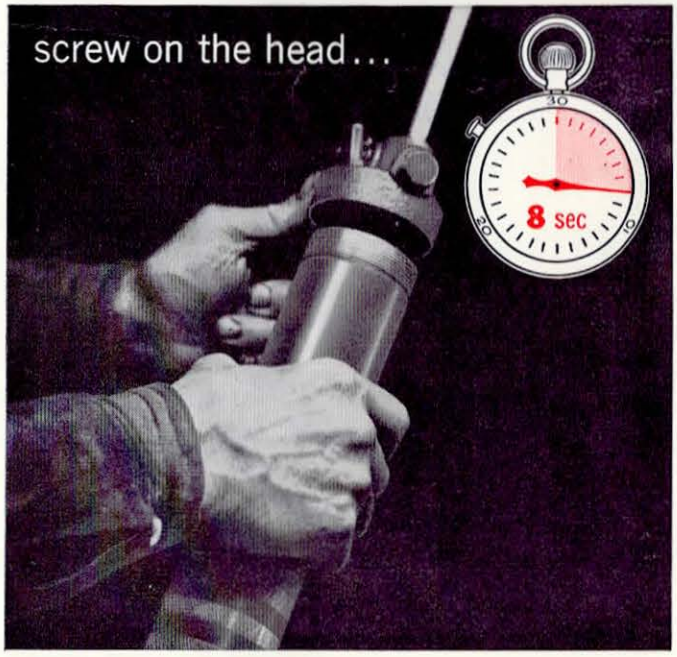

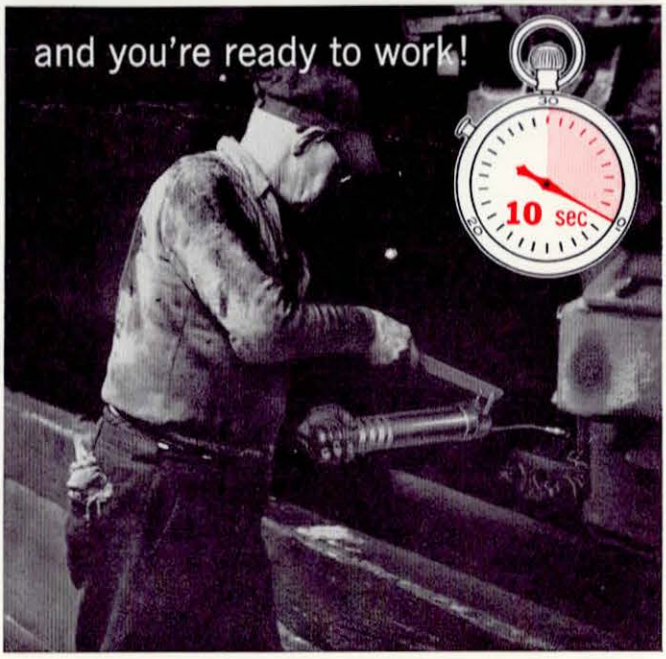

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for heavy duty high mileage service

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Timken "AP" railroad bearings are built for long, heavy-duty service. They help railroads improve shipping, cut costs, because they solve the hot box problem. In actual service, Timken "AP" bearings are averaging 214,000,000 car miles between car set-offs.

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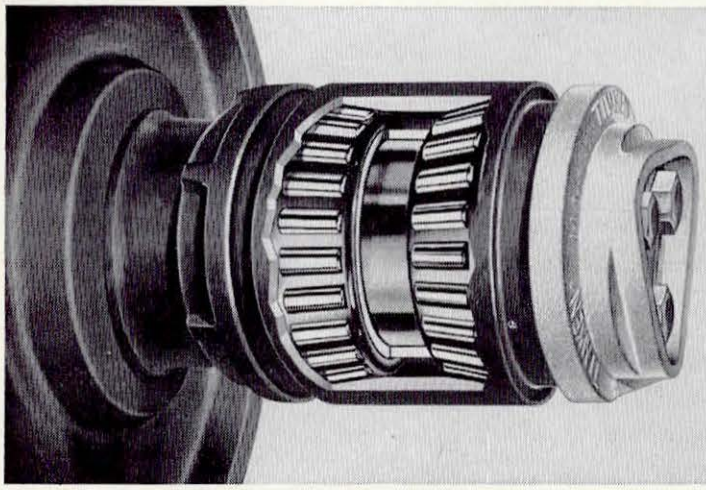

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RAILWAY AGE *weekly* August 22, 1960 • Vol. 149, No. 8

Week at a Glance

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Railway Age, established in 1856, is indexed by the Business Periodicals Index, the Engineering Index Service and the Public Affairs Information Service. Name registered in U.S. Patent Office and Trade Mark Office in Canada.

Published weekly by the Simmons-Boardman Publishing Corporation at 440 Boston Post Road, Orange, Conn. Second-class postage paid at the Post Office at Orange, Conn. James G. Lyne, chairman of the board; Arthur J. McGinnis, president and treasurer; Duane C. Salisbury, executive vice-president; George Dusenbury, vice-president and editorial and promotion director; Robert G. Lewis, Joe W. Kizzia, M. H. Dick, M. J. Figa, R. C. Van Ness, vice-presidents.

Examiner raps Plans III, IV ..... p. 9

The ICC has been advised by Examiner George A. Dahan to "take a profound look into railroad rates, charges and arrangements primarily designed for forwarders." Specifically, Mr. Dahan thinks Plans III and IV piggyback rates are unlawful.

Cover Story—M&StL: Sales drive rolls on pending merger p.14

The road may not exist much longer as an independent operating railway company, but morale remains high and a new marketing-based sales program is rolling along without letup.

'Cinder level' fight on L&D p.17

The Pennsylvania has developed a flannel board presentation that pinpoints the blame for high loss and damage claims, and suggests remedies. Here's the story in pictures.

Cover Story—N&W gets dial phone network p.18

Installation of a direct distance dialing system has resulted in a four-fold increase in the use of telephones on the road. Call-director equipment makes distance dialing fast and simple.

C&O seeks to shave P&S costs p.26

A task force set up by the purchasing and stores department 18 months ago has identified problem areas where more efficient practices could save up to $1.1 million a year.

Cover Story—New goals for railroad research p.27

Is "technological inertia" holding back the railroads? M.I.T. Professor A. S. Lang thinks so. He is particularly concerned by what he views as the industry's failure to plan ahead for the day of automatic train operation.

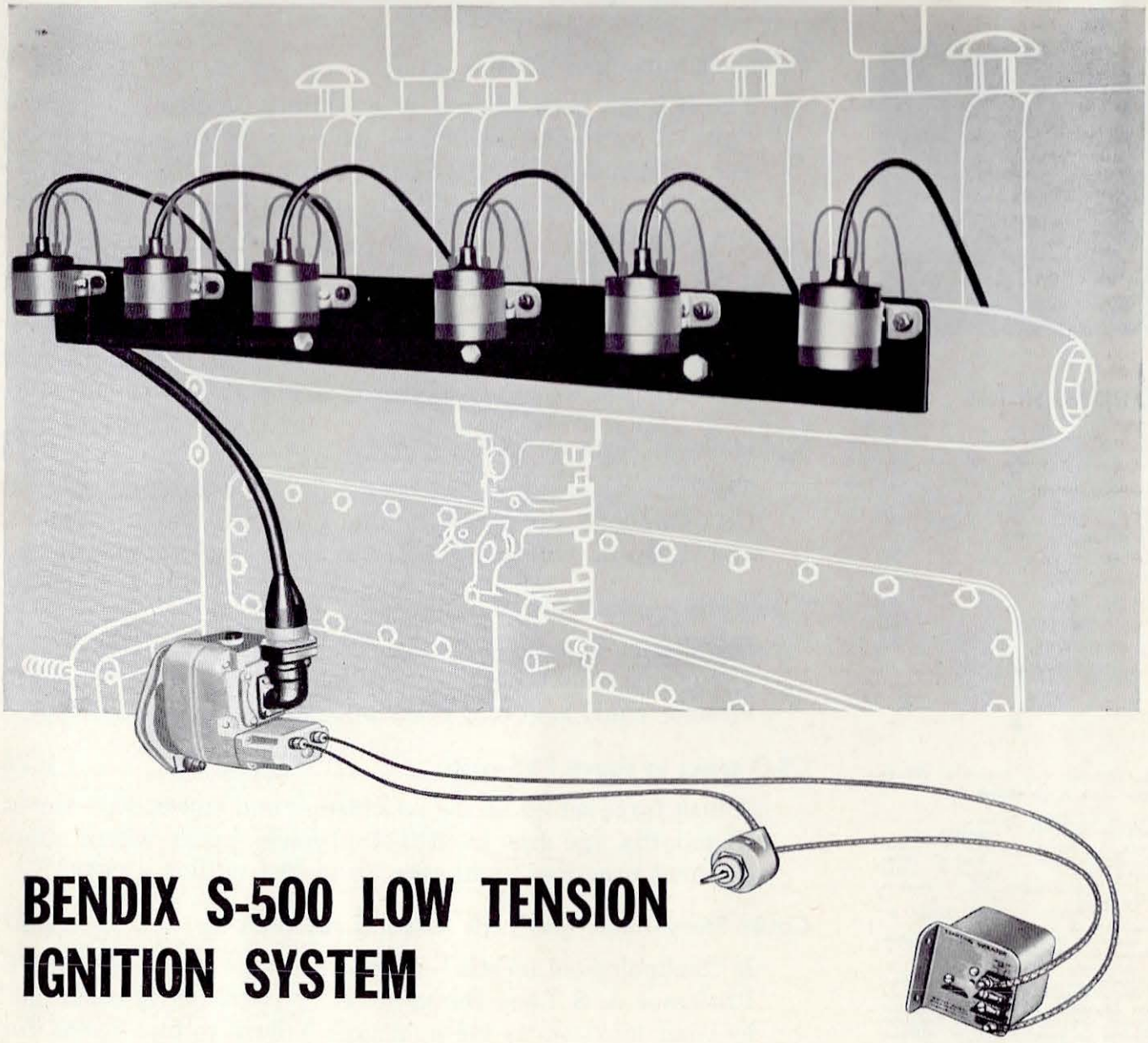
SUNA snubs wage settlement p.32

The Switchmen voted 4-to-1 last week against accepting the pattern offer of a 4% increase. In the work rules dispute, meanwhile, the chiefs of the operating brotherhoods have reaffirmed their opposition to handling the fireman-off issue separately from other carrier demands.

The Action Page—Best prescription yet p.38

Ernest W. Williams, Jr., and David W. Bluestone, who headed the "study staff" for the Commerce Department report on transportation policy, have come up with a remarkably able and penetrating prescription for converting wasteful chaos into economic order. But no prescription is any good until it is compounded and administered.

The latest for small-to-medium industrial engines



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Week at a Glance CONT.

Current Statistics

Operating revenues	
5 mos., 1960	$4,064,090,155
5 mos., 1959	4,125,693,993
Operating expenses	
5 mos., 1960	3,195,545,311
5 mos., 1959	3,229,846,918
Taxes	
5 mos., 1960	450,170,907
5 mos., 1959	438,663,308
Net railway operating income	
5 mos. 1960	273,263,468
5 mos., 1959	324,315,344
Net income estimated	
5 mos., 1960	195,000,000
5 mos., 1959	234,000,000
Carloadings revenue freight	
31 wks., 1960	18,581,511
31 wks., 1959	19,019,290
Freight cars on order	
July 1, 1960	29,555
July 1, 1959	40,973
Freight cars delivered	
6 mos. 1960	31,402
6 mos., 1959	18,272

●

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F. T. Baker—district manager;
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J. R. Thompson—vice president;
J. W. Crossett—district manager;
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Cleveland 15, Ohio, 1501 Euclid Ave., MAin 1-4455
H. H. Melville—vice president;
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Pittsburgh 19, Pa., Suite 203, Carlton House GRant 1-8186
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Portland 5, Ore., Terminal Sales Bldg., CApitol 7-4993
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38 Victoria St.,
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Change of address should reach us three weeks in advance of next issue date. Send old address with new, enclosing, if possible, your address label. Post Office will not forward copies unless you provide extra postage.

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Short and Significant

Working control of the Monon . . .

has passed into the hands of an investment group headed by a Milwaukee transit executive and two Chicago attorneys. W. C. Coleman, vice president of Milwaukee & Suburban Transit Corp., has been named board chairman of Monon, succeeding W. D. Floersheimer, who headed a group which took control of the road four years ago. The Coleman group's holdings are estimated at more than 14% of Monon's voting securities.

The NYC-C&O contest for control of the B&O . . .

was still centered last week in Switzerland, where an estimated 25% of B&O stock is held. NYC President A. E. Perlman flew to Zurich following reports that Swiss stockholders had been advised to reject NYC's offer and accept C&O's offer. Other developments: (1) A meeting of presidents of the three roads, called to discuss B&O President H. E. Simpson's proposal for a three-way merger, ended "without agreement." (2) ICC authorized C&EI and RLEA to intervene in C&O's bid for B&O. (3) C&O asked the ICC for permission to intervene in NYC's bid for B&O.

Santa Fe and TP&W have joined . . .

the Trailer Train Co., bringing total membership in the piggyback car pool to 29 railroads and one freight forwarder. Both Santa Fe and TP&W said they plan to use TTX cars to expand their TOFC services.

New York Central's new freight yard . . .

west of Indianapolis now has an official name: the Big Four Yard. NYC President A. E. Perlman commented that the yard "will serve as a historic gateway to the North, East, South and West, just as the Big Four Railroad (the Cleveland, Cincinnati, Chicago & St. Louis) sparked the tremendous expansion of farm and factory in its territory over the past century." The 490-acre yard will be formally opened Sept. 15.

The missile-train test program . . .

was pronounced "completely successful" last week—so successful that the "dry runs" will end when Test Train No. 4 returns to Hill Air Force Base, Utah, this week. Originally six test trains were scheduled. But Gen. Thomas S. Power, SAC commander in chief, said four trips proved sufficient to collect enough data "to make firm plans for the mobile Minuteman." He had high praise for participating railroads, declaring: "They have clearly shown a willingness to make the missile mobility plan work."

Roller or Solid?...a bearing specialist's answer

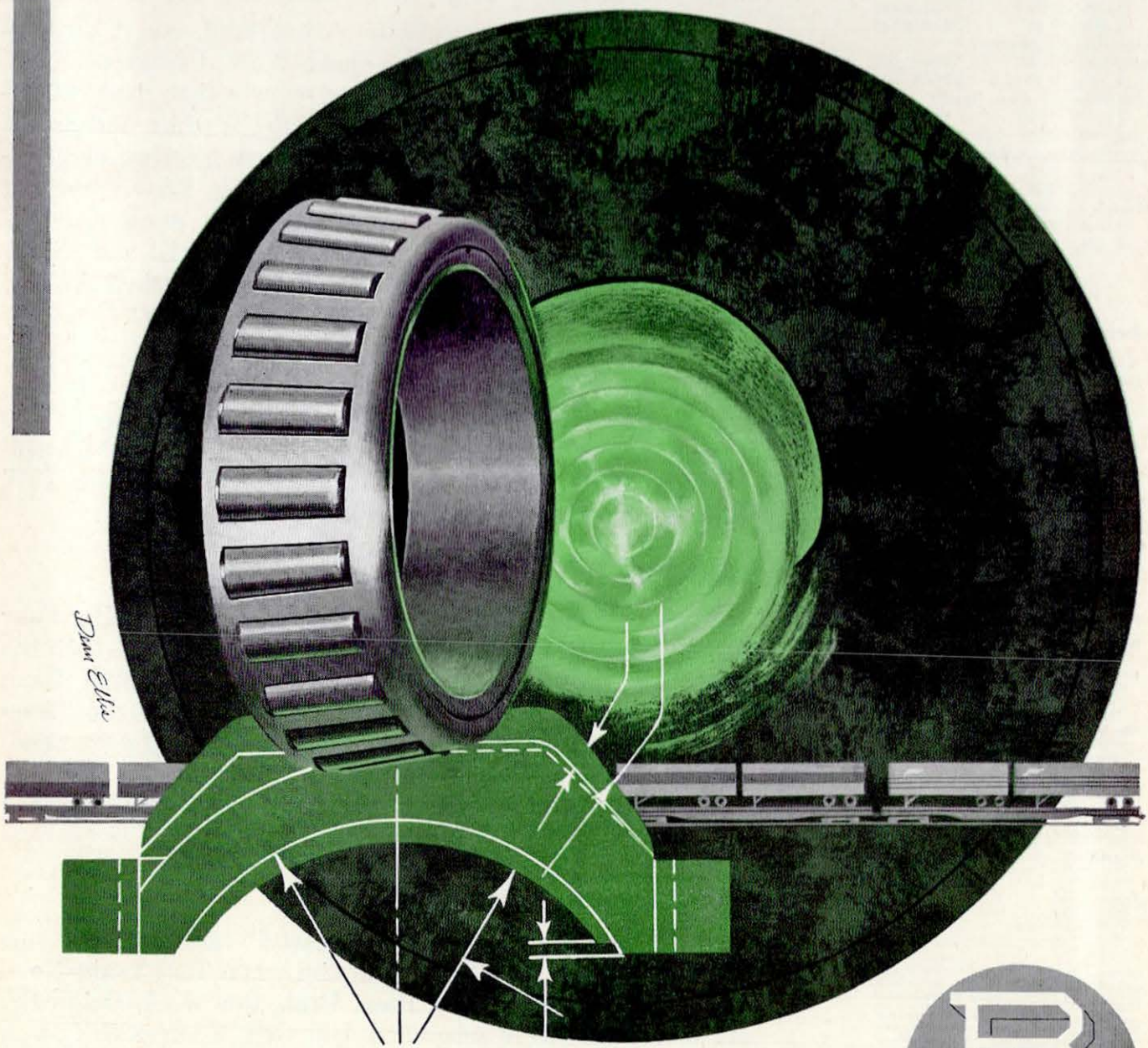
Our belief is that *both* bearings have a job to do.

In general...as much new equipment as possible should have roller bearings—particularly, fast-freight, high-mileage cars. The roller bearing is the only *final* answer to the hot-box.

On the other hand, solid bearings will be needed on existing equipment for many years to come. Low in cost and rugged, they give excellent service.

For these reasons Brenco is the only manufacturer who makes both types and specializes exclusively in railroad bearings.

Brenco bearings...more than a million in service!



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BRENCO BEARINGS

Examiner Raps Plans III, IV

► **The Story at a Glance: Numerous Plan III and Plan IV piggyback rates of eastern and western railroads would be found unlawful if the Interstate Commerce Commission accepts the long-awaited advice of Examiner George A. Dahan in ICC Docket No. 32533.**

The ICC has received from Examiner George A. Dahan a proposed report recommending condemnation of railroad rates for Plans III and IV piggyback services which involve transportation of shipper-owned or leased trailers and flat cars.

Noting that the rates in issue are used principally by freight forwarders and shipper associations operating as consolidators, the examiner also recommends that the Commission "take a profound look into railroad rates, charges and arrangements primarily designed for forwarders."

Meanwhile, the examiner would have the Commission clear forwarder volume rates which are also in issue. "If there is anything wrong," he said, "it is in the rate structure of the underlying carriers."

The report puts before the Commission recommendations contrary to those of Examiner L. B. Dunn who recently advised approval of Plan IV rates published by the Baltimore & Ohio (RA, July 25, p. 14). Also before the Commission is Examiner W. L. Baumgartner's report recommending that another railroad pricing innovation—the guaranteed rate—be found unlawful (RA, Aug. 15, p. 9).

Examiner Dahan's report embraces several cases. The title case is No. 32533, the complaint of the Eastern Central Motor Carriers Association against Plans III and IV rates of eastern railroads. The other cases are investigations of specific tariffs. Although some of the involved rates were suspended for various periods, all are now in effect.

The examiner's proposed condemnation of them is based on his findings that they are "unjust and unreasonable, otherwise unlawful, against the public interest, and in contravention of the national transportation policy." He concedes that the railroads are entitled to bid for the business at stake, but he does not believe that either Congress or the Commission "intended such a course of action as the establishment of 'wholesale' rates for use by intermediate agencies of transportation so that such intermediaries could siphon traffic from

(Continued on page 34)

Dunn vs. Dahan—an Editorial

ICC staff people are worlds apart on the vital question of the legality of Plan III and IV piggybacking. Examiner Lawrence B. Dunn, in a proposed report, found piggyback Plan IV rates (by the Baltimore & Ohio) lawful and reasonable. He believes such rates "should be given a fair trial." He went on to say:

"It might just possibly happen that under this plan, and the other TOFC plans now in operation, the railroads may eventually find their best area of operation under 'coordinated' or 'integrated' transportation, concerning which there has been so much study, investigation, and prediction among transport experts, administrators, and legislators of recent years."

Now, however, along comes Examiner George A. Dahan with a wholly contrary opinion. He just won't have any such departure from traditional rate-making practices as Plans III and IV involve. The cases covered in his adverse report are a larger batch than those assigned to Examiner Dunn—hence his condemnation of innovation in rate-making has attracted much more publicity than Examiner Dunn's approval.

But the principles involved in Examiner Dunn's report are exactly the same as in Examiner Dahan's. In resolving these cases the Commission cannot accept the recommendations of both examiners. It is inconceivable that the Commission should go right down the line with the destructive course urged by Examiner Dahan.

Shipper witnesses in these cases, by an overwhelming majority, favored both Plan III and Plan IV. Indeed some of them would go further than the railroads have gone, and do away with the mixture requirement, thus giving all shippers the kind of simplified rate structure that truckers who use Plan I piggyback already enjoy.

But the preferences of the customers carried no weight with Examiner Dahan. He has a nostalgic veneration for traditional discrimination in rates—leaning heavily on "value of service," which he defines as the "price shippers will or should pay."

Mr. Dahan concedes that railroads have lost traffic heavily to trucks but, if the way of getting some of it back is by using such intermediaries as forwarders and shipping associations, then he's against their recovering the traffic. In fact, he's so much against it that he insists that Plan III and IV rates represent undercharges to the extent that they are lower than Plan II rates, and he calls on the railroads to proceed to collect these undercharges.

Any railroader would cheerfully concede that trailer rentals and payments for accessorial services in connection with piggybacking are still in the experimental stage. This is a necessary preliminary process toward perfecting any service; but Examiner Dahan won't stand for the cut-and-try approach. All such novel and unorthodox experimenting he roundly condemns.

"Motor common carrier service and regular rail service are essential to the economic life of the nation," says Mr. Dahan. Nobody will doubt his deep concern for protecting the traffic and prosperity of the motor carriers. We see no evidence that he is at all concerned with the preservation of railroad service. Instead, he is out to destroy almost the only aspect of their traffic that is showing vigorous growth. Fortunately for the shipping public, the railroads and the nation's welfare, the ICC is not bound by his opinions.

Southern Seeks to Buy CofGa Control

The Frisco's 71% interest in the capital stock of the Central of Georgia will be sold to the Southern Railway Co.—subject to approval of Southern stockholders and the ICC. Purchase price: $22,655,000, payable in cash, representing $13,571,800 for 249,987 shares of common and $9,083,200 for 111,187 shares of preferred.

Frisco's move to sell ends a long and unsuccessful fight waged by the road in its effort to secure control of the 1,763-mile CofGa. Clark Hungerford, chairman and president of Frisco, termed the Frisco-Southern agreement "a transaction beneficial to the carriers involved and also one which the Interstate Commerce Commission can approve as being in the public interest." He said Frisco will join with Southern and CofGa in seeking ICC approval.

Mr. Hungerford added: "The transaction when consummated will constitute a complete divestiture of Frisco's interest in the Central of Georgia in conformity with the express views of the ICC."

"Obviously," said Southern President H. A. DeButts, "each of the three railroads involved feels that this transaction is to its best interest as well as one which the ICC can promptly approve as being in the public interest."

Indications are that the application to the Commission will be filed promptly.

Frisco's attempt to control CofGa snagged on a Commission finding that the road had violated the Interstate Commerce Act in acquiring control and that maintenance of such control was not in the public interest. The ICC ordered Frisco either to dispose of its CofGa stock or to transfer it to a corporate trustee under terms and conditions approved by the Commission.

Frisco tried to take the latter course, but the ICC then called for modification of the proposed trust agreement to leave the trustee free to sell the stock to any railroad offering to buy it under arrangements found just and reasonable by the Commission (RA, July 11, p. 46).

Control of CofGa would boost mileage of the Southern Railway System (of which Southern Railway Co. is a major component) to more than 9,600 miles.

Book value of Frisco's CofGa stock was listed at $22,637,305 at the end of 1959.

Watching Washington *with Walter Taft*

• **LABOR-MANAGEMENT PACT** will have the effect of moderating any accident-reporting legislation enacted in the present session of Congress. The pending bill, passed by the Senate and now before the House, would prescribe inflexible reporting requirements. It would virtually end ICC discretion to determine which accidents are reportable, and require reporting of any accident to any railroad employee who is thereby incapacitated for 24 hours.

THE AGREEMENT, between the Railway Labor Executives' Association and the AAR, was announced by the chairman of RLEA's safety committee, Harry See, at last week's House Interstate Commerce Committee hearings on the Senate-passed bill. It came out of conferences in which representatives of the ICC and Railroad Retirement Board also participated, and it contemplates that the Commission will amend its reporting rules.

PRESENT COMMISSION RULES require reporting of accidents only if the injured person is incapacitated for 72 hours. Also, they undertake to confine reportable employee casualties to those relating to railroad operations—although labor protests have caused some retreat from the latter position, first taken by the Commission in 1957.

AS AMENDED in line with the agreement, the bill would make only one important change in present law. It would make clear that the act covers accidents to all employees of a railroad—not just those concerned with operations. Meanwhile, the Commission's discretion would be preserved by elimination of specific reporting requirements from the bill. RLEA's support of the proposed legislation on this basis was endorsed for ICC by Commissioner Howard Freas and for AAR by Assistant Vice President Graham E. Getty.

ENACTMENT of this agreed-on bill is about all Congress is expected to do for railroad labor at the present session. That prospect, however, is not accepted by RLEA. It is still pushing for enactment of the track-car bill which would give the ICC power to prescribe rules for operation of track motor cars, and a bill to repeal or emasculate so-called train-off (service-abandonment) provisions of the 1958 Transportation Act.

• **STRIKE-INSURANCE PLAN** of the railroads is being scrutinized by lawyers for railroad labor organizations. RLEA counsel are conferring with counsel for the Brotherhood of Railroad Trainmen to appraise prospects of winning a court test of the plan. This was revealed by RLEA Chairman G. E. Leighty, who says the labor leaders will receive the lawyers' report next month.

THE STUDY was prompted by the Long Island strike which was brought before RLEA by BRT President W. P. Kennedy. Mr. Leighty says the 27-day strike emphasized that the insurance plan does not result in industrial peace. He also says the strike would have been settled in a "short time" except for the insurance payments which he put at $50,000 a day. The insurance is designed to provide a struck road with funds to pay fixed charges and other costs of maintaining a stand-by position. It does not cover loss of profits.

solo performance

One-man loading scores big piggyback savings

It's a one-man job, loading or unloading the new General American G-85. Securing the trailer is done from within the cab. Center guide rails assure automatic alignment—make it a simple hands-off-the-wheel job.

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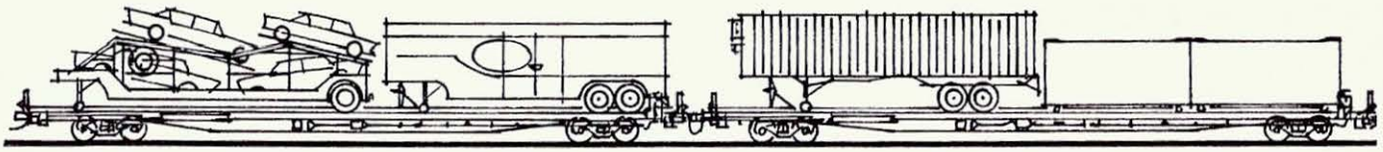

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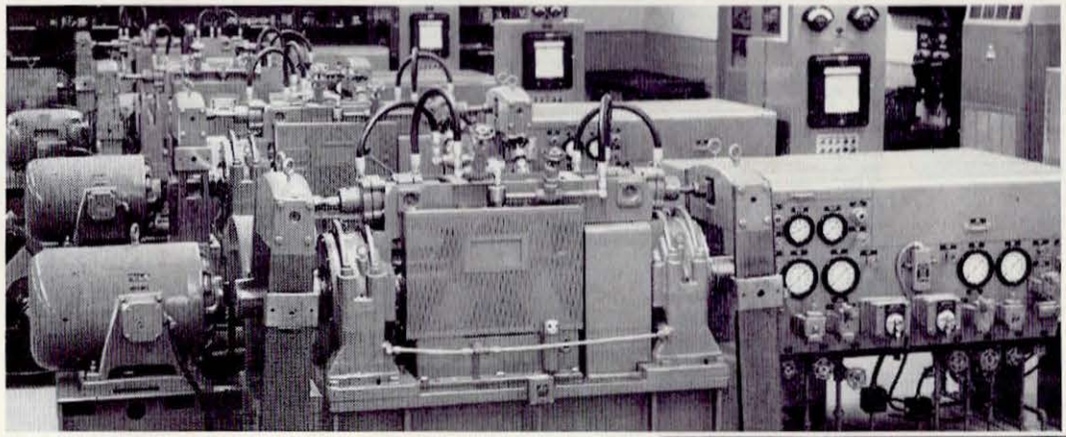
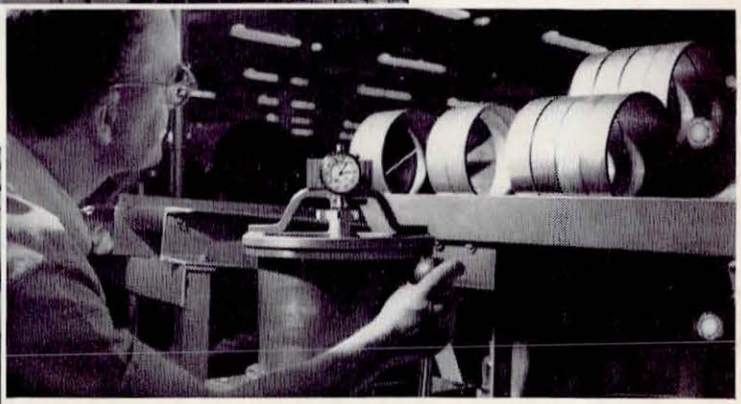
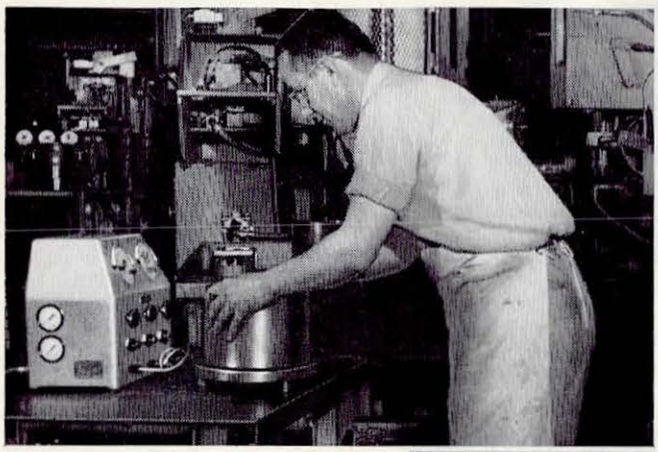


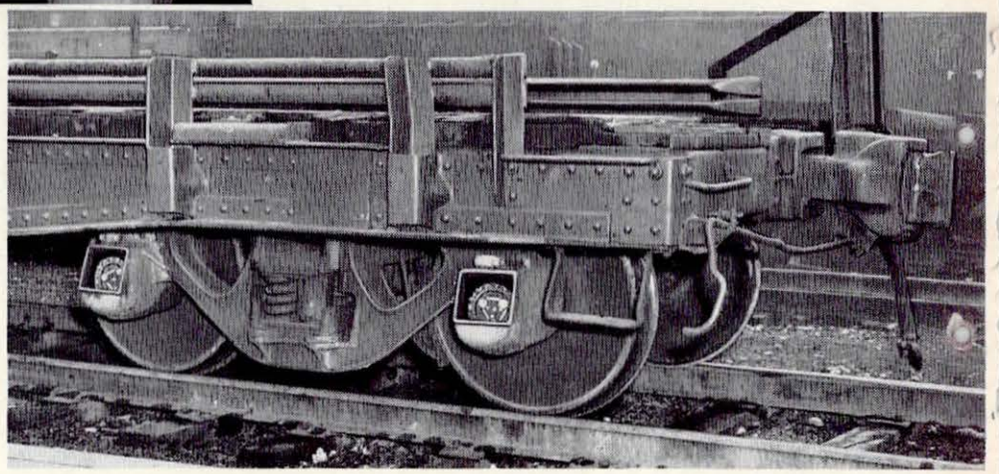
Here in the Hyatt lab, hundreds of the new taper freight bearings proved their ability to perform satisfactorily under excessive radial and thrust loads, at speeds beyond any they'll encounter in actual service.



At final assembly, the assembled lateral clearance of every bearing is carefully checked. This operation guarantees that the bearing will have exactly the right amount of clearance when it is pressed on to your journal.



Above: Each part of a Hyatt taper freight bearing is 100% inspected by ultra modern indicating gauges and rechecked to tolerances measured in ten thousandths of an inch.



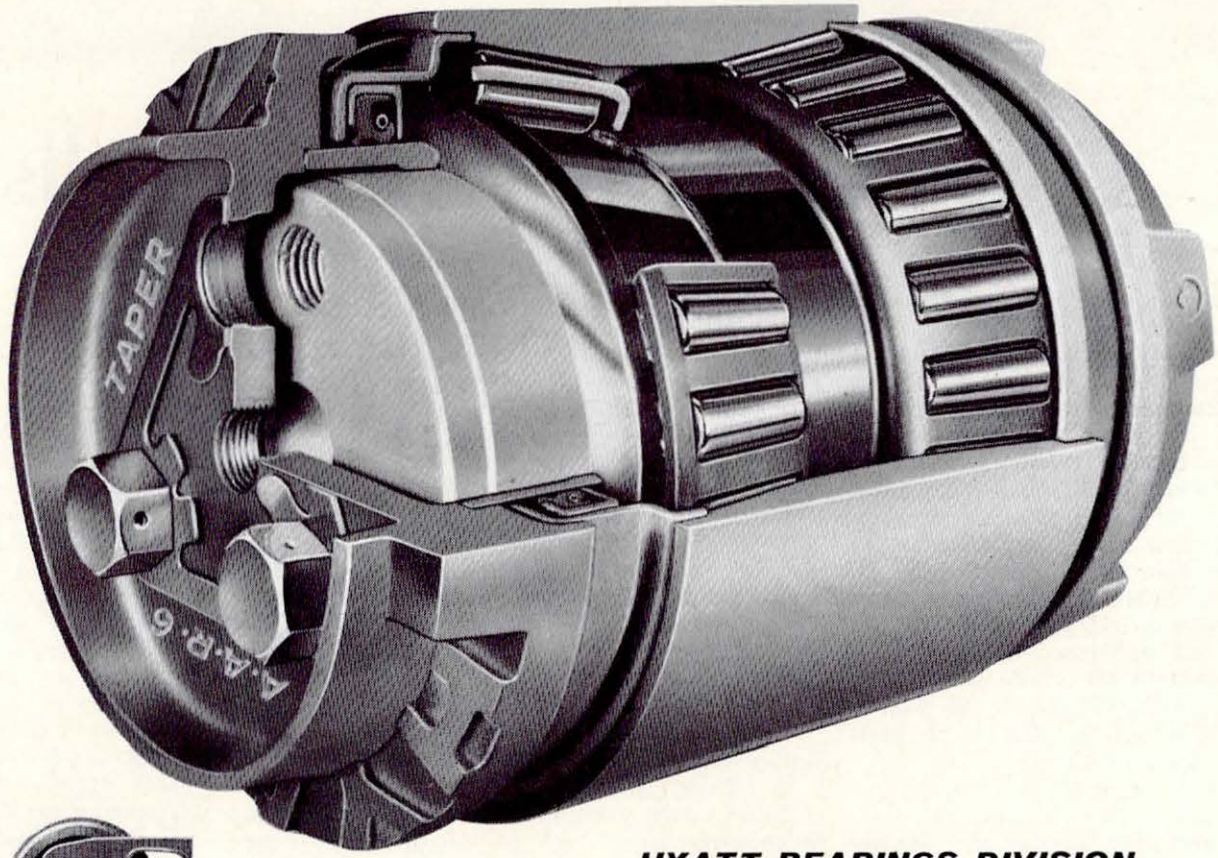
Right: A new Hyatt taper freight bearing installed in a converted integral box side frame being used in piggy back service. It can be installed interchangeably with other freight car roller bearings.

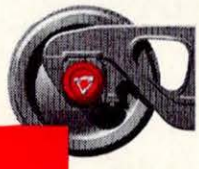
FREIGHT BEARING

on the long haul!

Designed for the speeds of tomorrow, Hyatt's new taper freight bearing incorporates the most successful features of taper roller bearings, thoroughly proved seal and other forward-looking refinements. Results: Hyatt taper freight bearings are proving themselves by averaging 10,000 trouble-free miles a month on hundreds of hard working, high-speed cars.

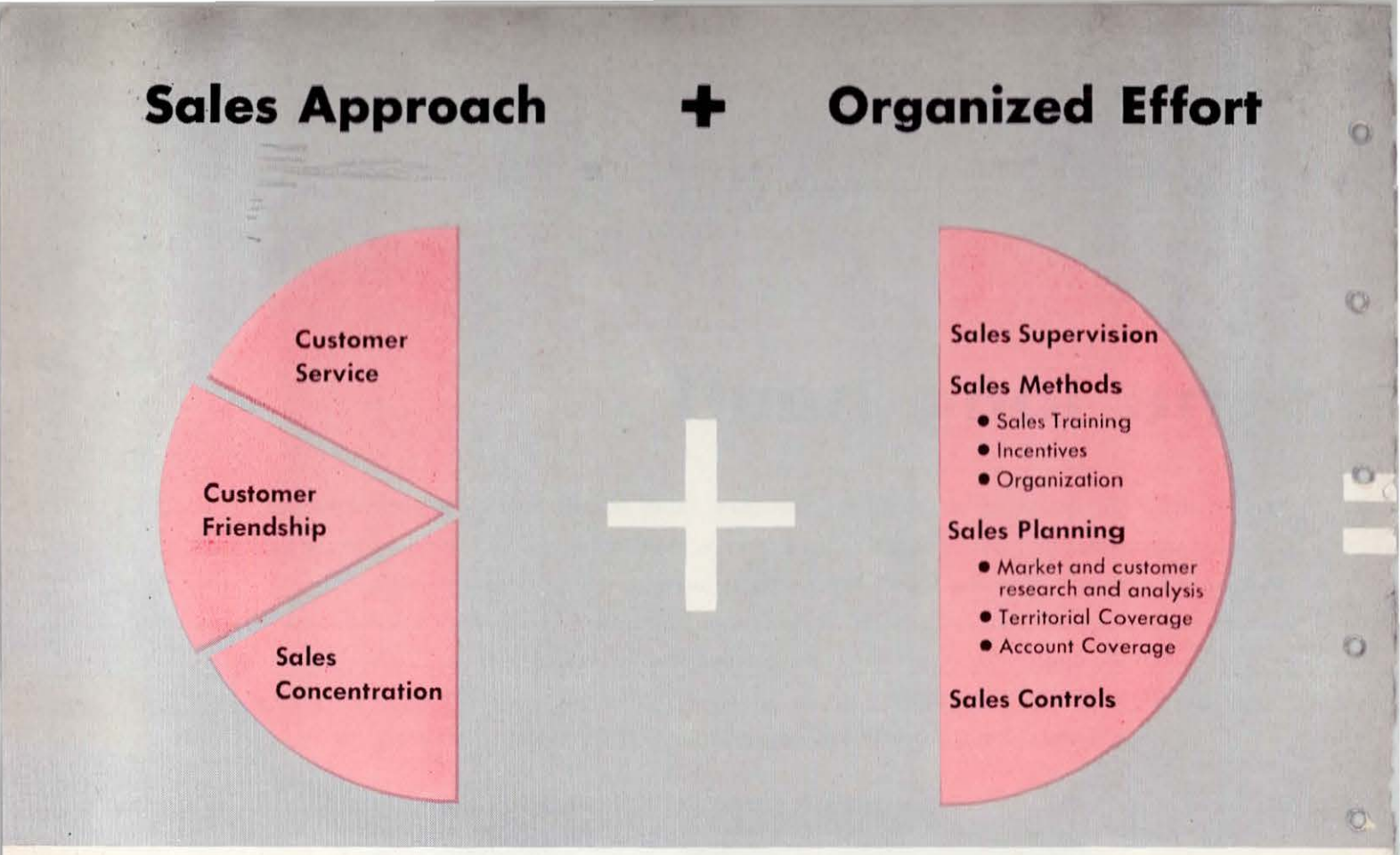
A.R.R. approved, Hyatt taper freight bearings are already in production in the 5½ x 10, 6 x 11, and 6½ x 12 journal sizes. Specify Hyatt taper freight bearings. See if they don't out perform any journal bearing you've ever used!





HYATT BEARINGS DIVISION
GENERAL MOTORS CORPORATION,
HARRISON, NEW JERSEY

HYATT ***HY-ROLL BEARINGS***
FOR NON-STOP FREIGHT



M&StL: Sales Drive Rolls on

► **The Story at a Glance: It's business as usual on the Minneapolis & St. Louis—despite the strong likelihood that by the end of this year (or shortly thereafter) the 1,400-mile granger and bridge road will be absorbed into the Chicago & North Western system.**

And while M&StL is, in effect, living on borrowed time, it's providing an unusual case history of "What to Do Till the New Boss Arrives."

J. R. Sullivan, who moved over from vice president-personnel to become vice president-traffic and pump new life into the road's sales effort, sums up M&StL's attitude this way:

"This is not the time to sit back and let the dust settle."

One month to the day after M&StL got its full sales force oriented to a new marketing-based sales program, the announcement reached M&StL offices, in Minneapolis and all across the country: directors had reached agreement on sale of the railroad's property and assets to up-and-coming C&NW, a system 10 times larger than M&StL on most measuring scales.

Because railroad consolidations—unlike mergers in other industry—move at a slow, measured pace, merger announcements can give rise to a host of problems. It's logical to assume that in this particular case—merger of a small line into a much larger one—some problems, especially those dealing with staff morale, could easily have been magnified.

M&StL has tried not to let this happen. By and large, the road has taken Jim Sullivan's advice. The dust hasn't settled, on M&StL plans and programs or on M&StL sales and service efforts —even though the road may not exist Jan. 1, 1961, as an independent operating railway company.

Development of the marketing concept gives proof to the point.

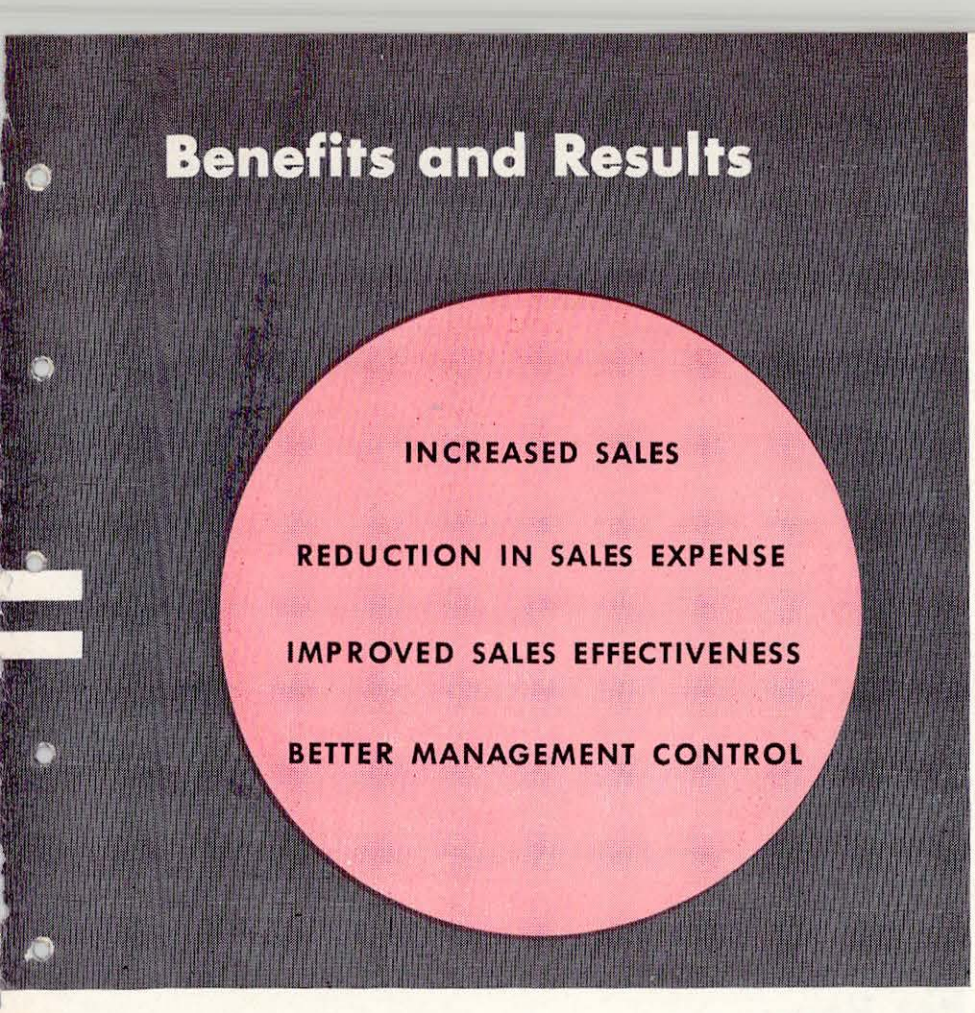
Historically, M&StL has stood alone —through good years and bad—as an independent carrier with no tonnage-generating corporate ties to any other railroad. It's been a consistent net income producer over the past two decades, despite its dependence on agricultural traffic and bridge traffic.

In the past four or five years, the road has been in the hands of a young, aggressive management team which brought about wide-ranging improvements in operating equipment and methods. (M&StL was a pioneer, for example, in the introduction of responsibility accounting, coupled with a high degree of IBM mechanization.)

But about two years ago, M&StL's team saw the company's earnings record threatened by a combination of factors: the St. Lawrence Seaway was about to become an operating reality; motor carrier competition for grain traffic was becoming deadly; several larger competitive railroads were studying merger.

So the traffic department came under concentrated study—to determine if its organization, policies and practices met the demanding standards of effectiveness reached in other areas.

Studies, by M&StL itself and by outside consultants, produced favorable reports in many fields: tracing and diversion services among the best . . . schedules competitive and consistently met . . . sales people loyal and industrious, and technically proficient. But, as expected, the surveys also turned up unfavorable areas: inadequate communication with and supervision of field sales forces . . . no organized promotion of new accounts . . . no systematic sales call pattern . . . sales territory boundaries out of date . . . too much of the salesmen's time spent on clerical detail.



Pending Merger

M&StL attacked specific ailments with high-potency medicine and came up with company-wide adoption of the marketing concept in selling transportation service. Basically, it involves a four-point program: improved sales supervision; better sales methods; thoughtful planning; and more effective control. Organization was realined on a regional basis, under four regional assistant vice presidents.

Orientation of field forces began last February. Regional groups met for three-day sessions in Minneapolis, New York, San Francisco and St. Louis. Top officers from the executive, operating, accounting and public relations departments and traffic specialists in rates, industrial development and piggyback were on the "faculty" for the training meetings.

Selling the Sales Force

Lectures, round-table discussions, skits, role-playing, graphics and motion pictures were used to highlight these points:

- Basic marketing principles.
- Use of new IBM sales reports to eliminate laborious hand-posting of tonnage records in sales offices.
- Use of traffic data for budgeting and forecasting.
- Development of new sales methods and procedures.
- Territorial reorganization on a county basis to facilitate use in the marketing program of readily available published statistics.
- Use of a new Sales Bulletin as a communications device.
- Inauguration of a comprehensive personnel development program.
- Constructive use of a new industrial brochure.

By March 11, the regional meetings had ended. On April 11, the C&NW acquisition story broke. And M&StL moved into gear quickly to prevent a staff let-down.

Three days after the North Western announcement, M&StL sales people and key C&NW officers got together at a luncheon in Chicago. The sales force heard, as Jim Sullivan phrases it, "a reassuring general discussion of the outlook for their absorption into productive selling assignments in the combined company." A few days later, a special edition of the M&StL company

Improved Sales Methods — Via 'KMTS'

Better utilization of sales time and effort is built around a system in which accounts are classified into one of four priority groups:

- Key accounts—those providing carload traffic in the upper brackets and requiring most frequent sales contact.
- Major accounts—those in the middle on a carloadings scale. Volume, needs and potential determine number and frequency of contacts.
- Target accounts—those representing non-customers, or shippers whose volume is low in relation to the potential.
- Small accounts—those lowest on the carload volume scale.

(A fifth grouping, "other potential accounts," includes those not classified under any of the four major headings.)

Basic to the KMTS operation is a four-point program designed to put the sales effort on a firm, consistent footing. M&StL tells its salesmen to:

- Adopt a standard call frequency schedule.
- Classify all accounts in every territory by call classification—the KMTS priority listings.
- Develop a basic plan for territory coverage—actually a time allocation for sales efforts devoted to the various classes of accounts.
- Develop a special program for each Target account—a matter of studying the prospect and then developing a basic approach to obtain the business. Emphasis goes to careful planning of each sales call.

As M&StL sees it, effective sales methods are made of (1) effective use of sales time; and (2) an effective sales approach. And the KMTS program enables the salesman to improve performance on both counts. He'll be concentrating more surely on present key accounts and on developing valuable new accounts; he'll also be tailoring his approach more closely to the requirements of each individual account.

magazine, the EXPRESS, went to all personnel and all customers to give the assurance of President A. W. Schroeder that services and customer relationships would go on as before.

Results since then show that M&StL really is producing "as before"—and producing at a better rate than any of the other eight roads in its territory except Chicago Great Western. Cars forwarded and received by M&StL over the first six months showed a 3% decline from first-half 1959 figures—but the territorial average approximated a 6.7% decline and one road reported a drop of more than 10%. By a significant yardstick of bridge-road business—cars received from connections—M&StL stood first among the nine carriers, with only a 1.8% drop from first-half '59 totals.

The current carloadings projection for 1960 indicates a final figure of about 209,000 cars, or a 5.5% gain over actual 1959 loadings.

Best of all, near-complete reports on the "Target" account program show these accounts—about 570 in all—posted a 17% increase in carloadings, January-May 1960 compared to the same period last year.

And in the more than four months since the merger announcement, here's the way M&StL's marketing department has kept the dust flying:

- Each salesman has completed a sales call analysis for his own territory. Resulting readjustments in workloads to permit more effective coverage and better customer contact were effective June 15.
- A new marketing presentation was developed, using an eye-catching personalized advertising folder. Stress was placed on 10 specific customer services. A program of publicizing the marketing orientation was launched.
- Modern stationery, letterheads and business cards were introduced to enable on- and off-line sales offices to present a uniform and more effective corporate image.
- Telephone tracing installations were expanded, to permit customers to obtain assistance even when the one man in a one-man office is out selling.
- A sales department circulating library was created in mid-July.
- Position titles, from the VP on down, were changed to reflect the marketing emphasis.
- The company has continued to marshal its strength behind field representatives at the point of sale—a basic tenet of marketing, according to M&StL.

Even with the brief experience they've had with the new procedures, Jim Sullivan notes, M&StL salesmen "generally agree that in addition to more effective tools, they also now have more time for face-to-face selling . . . Mechanized IBM tonnage reports and improved correspondence methods alone save productive man-hours equivalent to assigning six additional trained men to the department."

(*Continued on page 30*)

Railroading After Hours with Jim Lyne

CARS TOO COOL?—A friend of mine who's done a lot of traveling this summer tells me that, on the average, the air conditioning on each of the railroads he rode was kept too cool for comfort. He said, on one train, he even had an Englishman as a fellow-passenger who sat around in a topcoat and shivered. "And when you find an Englishman who says that inside temperatures in North America are too cold, boy, you must have it really cold."

I'm not saying my friend is right—I'm just passing his comment along in the form of a question. I suppose there is a range of at least 15 deg. between the favorite temperatures of different people, and you can't satisfy everybody. But what reading will please the greatest number?

SOLICITATION—OR WHAT?—I have received a card—to all external appearances one of those racy greeting cards. It portrays a curvy gal with the caption: "Solicitation?"

You turn to the inside and the question is answered: "No, Salesmanship!" and there follows an interesting little essay on the difference between soliciting and selling. The card is from the M&StL, and the text explains how the M&StL sells but does not solicit. The purpose of the card is to announce that what used to be known as the traffic department is now the sales department.

SELLING OR MARKETING?—As I get it, there's not only a difference between soliciting and selling, but an equally important distinction between selling and marketing. In the former case, the producer produces what he wants to produce and prices it as he wants to price it, and then proceeds to induce customers to accept his product and price.

In marketing, the approach is for the producer to find out exactly what kind of service the potential customer needs and at what price he'll be eager to buy. Then the producer endeavors to produce the product and meet the price that will make the potential customer an active one.

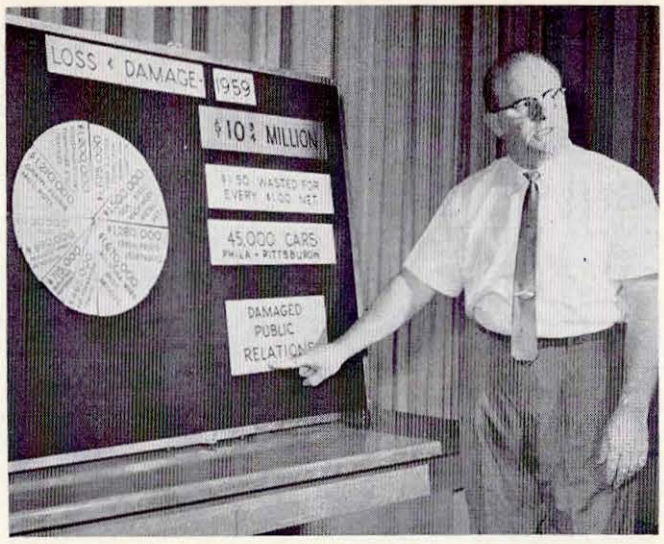
The solution isn't as simple as it sounds, because not many potential customers know exactly what they want, even if you ask them, nor the particular price that will maximize their purchases. The imaginative producer has to do a good deal of highly skilled guessing—based on as much fact-finding as he has the means to provide.

FAREWELL TO WHIT—Everyone is unique, but a few people are more so than usual—and the late Laurence Whittemore was high on this list. His career alternated railroading with the lumber (or pulpwood) business, with several years in public office sandwiched in between. He had the disarming exterior of a popular politician, but was actually a deep student of every enterprise he engaged in. In his entire business career, he kept his home at Pembroke, N. H., which was his birthplace (and that of his ancestors for a couple of centuries).

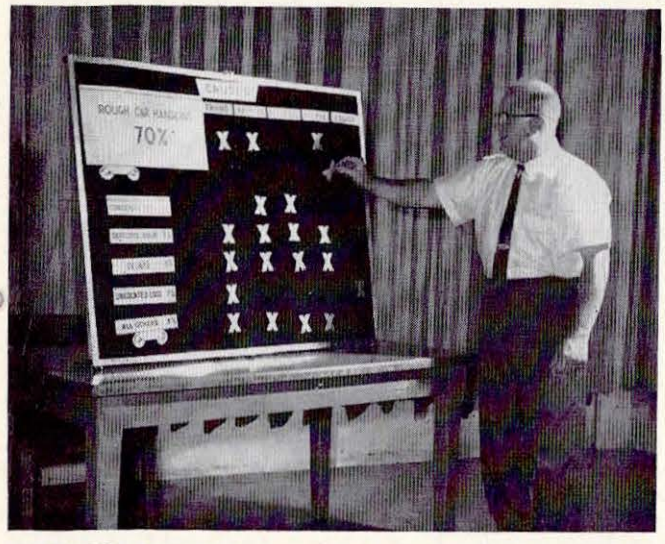
Many people thought of him as "Mr. New England"—and it was as such, and as a railroader, that Dumaine the Elder chose him as president of the New Haven. But Dumaine Senior was not the kind of financier to let his managers do much managing; so Whit got out, to devote himself full-time to the forestry products business.

As far as I can recall, Whit was the only chief executive of a major railroad who "came up" as a public relations officer. It's too bad he didn't have a longer spell, to show what that experience could have contributed to the presidential role.

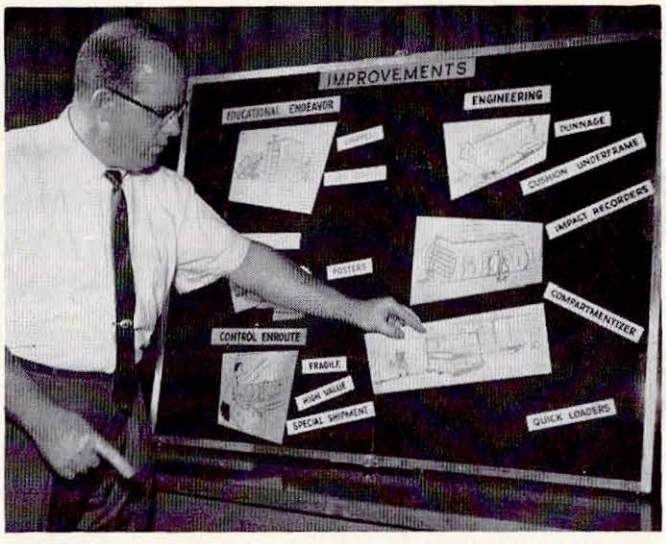
WHO: Loss and damage prevention supervisors from PRR's nine regions study pilot run of flannel board presentation they will make at "cinder level" on PRR. At board is E. M. Rush, L&D prevention supervisor, Philadelphia.



WHAT: Claims for damages to freight in 1959 totaled $10¾ million, but total loss (e.g., damaged public relations) could not be measured in dollars alone. Pie-chart at left shows claims breakdown by commodity.



CAUSES: Mr. Rush says rough car handling causes 70% of damage. This may stimulate arguments by train and engine crews when flannel board is shown in classification yards, but L&D prevention officers have facts to back it up.



REMEDY: Loss and damage can be reduced by continuing employee education, sound engineering, impact recorders, better control en route, special equipment and many other devices aimed at better freight handling.

'Cinder Level' Fight on L&D

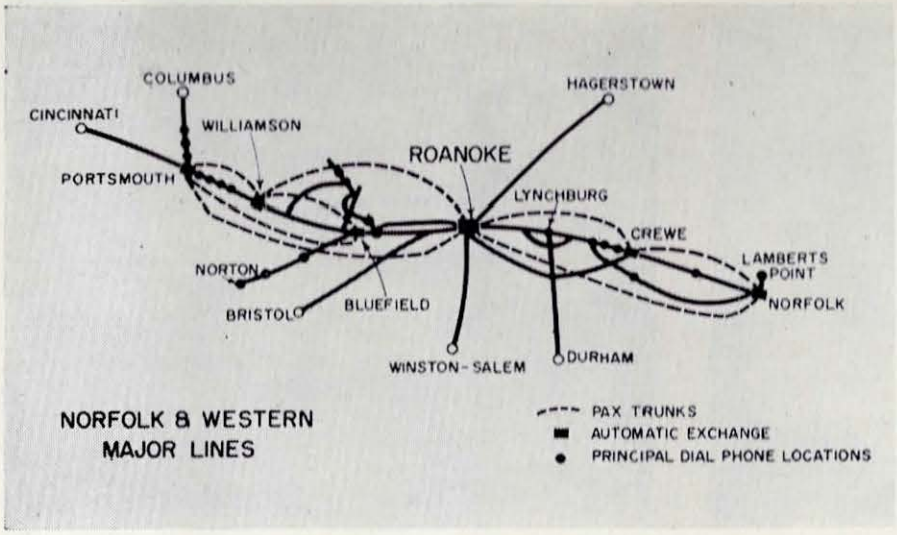
The Pennsylvania is waging a running brush war on loss and damage. PRR, which paid out $1.50 in claims for every $1.00 it earned in 1959, has now shaped an educational campaign for supervisors and employees which shows, (1) the high cost of L&D, (2) what causes it, and (3) what can be done about it.

Opening gun in PRR's new "cinder level" campaign was fired in Philadelphia recently, when E. M. Rush, supervisor of loss and damage prevention in the road's Philadelphia Region, staged a flannel board session for his counterparts in the PRR's other eight regions.

Goal of this campaign, which is now being carried throughout the system, is to stimulate the desire for improvement at train-crew level. The road figures if that alone is accomplished, it will justify the program.

These road-show presentations for line employees and supervisors are not, however, the only approach the road is using to cut the 1960 L&D bill.

Earlier this year, the road's personnel department newsletter, The Personnel Manager, devoted an entire issue to the L&D prevention theme. The letter, prepared in collaboration with the L&D prevention staff, pointed out how transportation department supervisors, freight agents, track supervisors, maintenance of equipment foremen and the police force can help trim L&D.



N&W Gets Dial Phone Network

Direct distance dialing (DDD) is now in service throughout most of the Norfolk & Western's 2,745-mile system —and the wires are humming. Since the advent of DDD, use of telephones on the N&W has increased four-fold.

By dialing six numbers, at most, it's possible to reach any of the 1,400 telephones tied into the DDD system. Call-director equipment (which added an extra 3% to the cost of the installation) eliminates the need for a long series of routing digits. The Automatic Electric device accepts a destination prefix number and translates it to the necessary multiple digits to operate the routing equipment along the line. Meanwhile, the calling party continues to dial the remainder of the number, which is recorded and retransmitted after routing is completed.

N&W began planning for dial telephone service in 1948. There was no actual major construction for several years—but a new wire plant (built when Western Union abandoned its pole line along the N&W) and all equipment and installations were designed with the ultimate goal in mind. As a result, no backtracking was necessary when the time came to make the major dial telephone installation.

The direct distance dialing service was installed in segments. Cincinnati and Columbus are not included in the DDD system, but engineering of circuit extensions to these points has been completed.

The system involves eight automatic exchanges, of which the N&W owns and maintains seven. At the general office in Roanoke, Va., the local telephone company furnishes PABX service which includes a five-position manual switchboard and the local automatic equipment and instruments. Operators are on duty during weekday business hours and for two hours on Saturday, Sunday and holidays. An operator is also provided at switchboards at Bluefield, Portsmouth, and at Norfolk Terminal Railway's PBX.

Distance from the exchange determines whether outlying points have a private or a party line. Up to five telephone stations may be on one telephone line.

At Norfolk, commercial telephone service is provided through the PBX of the Norfolk Terminal Railway Co. (jointly owned by the N&W and the Norfolk Southern). Those who require the service have a PBX phone on their desks in addition to the N&W dial phone. At points other than Norfolk and Roanoke, direct city telephones are provided where necessary. Business cars are equipped with dial phones that can be plugged into connections at principal stations.

Prior to their 1959 merger, both N&W and the Virginian were furnished PBX service by the Terminal Railway Co. at Norfolk. Message and long-distance lines of both roads terminated in the Terminal Co. switchboard. Consequently, N&W's general offices in Roanoke had telephone connections with the Virginian's general offices in Norfolk. Other points on the N&W could be connected with Virginian points through the Terminal Co. switchboard. When the two roads merged, a direct telephone circuit was installed between N&W's Roanoke PABX and the former Virginian PABX at Princeton, W. Va., headquarters of the New River division. Installation of dial telephones at important Virginia points began a few days after the merger date, and has now been completed at Victoria, Narrows, Princeton, Elmore and Mullens.

As the Publisher Sees It . . .

YOU are the subject of the following four pages. We thought you would like to see how you look to our advertisers, for the composite picture you help create here, as a *Railway Age* subscriber, is the advertisers' guide to the selection of *Railway Age* for their advertising.

These blue pages are the publisher's statement of circulation. They are subject to a strict audit by the Audit Bureau of Circulations, or "ABC" as it has been known in the publishing world since its inception 42 years ago.

As a subscriber to an ABC publication you get a better product, for, first, the editors know who you are and are thus better able to plan the content for you. Second, advertisers have a useful description of the *Railway Age* audience that aids them in selecting *Railway Age* for their advertising, and the money they spend in the magazine enables us to maintain our big (twenty-two) editorial staff, and hold subscription prices 'way down (they are lower now than they were in 1950 —about 5.7¢ a week for a railroad man). Third benefit of our ABC membership is that this 100% paid circulation, along with fast reporting of industry news, enables *Railway Age* to maintain its "newspaper privilege" with the post office department. This privilege entitles *Railway Age* to postal service second only to that of first class mail. Instead of loading into mail storage cars, *Railway Age* is pre-sorted and loaded directly into railway postal cars at New Haven, Conn. late each Friday afternoon. It's on the way to you almost before the ink dries.

Still another reason for publishing this statement here is so you will know why our circulation department and the ABC's auditors ask so many questions about you and your job. That is so we can classify you properly in paragraph 3.

Two more items we are real proud of are paragraphs 9 and 11. Paragraph 9 shows that our readers pay their bills fast, and paragraph 11 shows that a high percentage renew their subscription when it expires.

Thanks on all scores!

Robert S. Lewis

Business Publication **Railway Age**

PUBLISHER'S STATEMENT

For 6 Months Period Ending June 30, 1960

Subject to Audit by

AUDIT BUREAU OF CIRCULATIONS, 123 N. Wacker Drive, Chicago 6, Ill.

Simmons-Boardman Publishing Corporation
30 Church Street, New York 7, New York

Published Weekly

This publication is not the official organ of any association.

Established 1856

Field Served:
Railroad Industry.

1. AVERAGE PAID CIRCULATION FOR 6 MONTHS ENDING JUNE 30, 1960:

Subscriptions:			
Individual	6,152		
Association			
Group, for employes, branches & subsidiaries of purchasers (Mail Subscriptions Special) See Par. 12(a)	7,317		
Bulk, for other than employes, branches & subsidiaries of purchasers (Term Subscriptions in Bulk) See Par. 12(b)	375		
Average Total Number of Subscriptions		13,844	
Single Copy Sales: See Par. 12(c)		11	
AVERAGE TOTAL PAID CIRCULATION			13,855

1A. UNPAID DISTRIBUTION (For 6 Months Ending June 30, 1960)

	Jan.	Feb.	Mar.	Apr.	May	June	6 Mos. Aver.
1. Checking copies to advertisers and agencies	281	287	284	283	279	281	282
2. Free Lists:							
a. Fixed Free (every issue sent for six months or more)	35	33	37	40	37	36	36
b. Rotated or Occasional	1,302	1,041	1,299	1,299	1,040	1,299	1,200
3. All other unpaid distribution:							
a. Staff copies (employes, editors, correspondents, salesmen)	321	319	319	320	322	323	321
b. Promotion copies to advertisers and agencies	None	None	None	None	None	None	None
c. Allocated for shows and conventions	None	None	87	None	10	69	26
d. Miscellaneous	23	23	23	23	23	23	23
TOTALS	1,962	1,703	2,049	1,965	1,711	2,031	1,888

2. PAID CIRCULATION BY ISSUES: (Total of subscriptions and single copy sales.)

Issue	Copies	Issue	Copies	Issue	Copies	Issue	Copies
Jan. 4	13,968	Feb. 22	13,799	Apr. 11	13,906	May 30	13,824
11	13,964	29	13,793	18	13,904	June 6	13,809
18	13,951	Mar. 7	13,871	25	13,826	13	13,797
25	13,922	14	13,859	May 2	13,854	20	13,793
Feb. 1	13,855	21	13,850	9	13,851	27	13,787
8	13,823	28	13,844	16	13,835		
15	13,808	Apr. 4	13,924	23	13,831		

3. BUSINESS ANALYSIS OF TOTAL PAID SUBSCRIPTION CIRCULATION FOR THE MAY 2, 1960 ISSUE:
(See reverse side)

4. GEOGRAPHIC ANALYSIS OF TOTAL PAID CIRCULATION FOR THE MAY 2, 1960 ISSUE:
(See reverse side)

3. BUSINESS ANALYSIS OF TOTAL PAID SUBSCRIPTION CIRCULATION FOR THE MAY 2, 1960 ISSUE:
(Not an average for 6 months)
NOTE—Total paid subscription circulation of this issue was 0.01% less than average total paid subscription circulation for period.

	Subs.	Subs. Bulk	TOTAL	%
1. Railway:				
(a) Executive Department - Board Chairmen, presidents, assistants to presidents, corporate vice-presidents, secretaries, treasurers, auditors, assistants & other executive department personnel ..	1,606	21	1,627	11.75%
(b) Operating Department - Vice-Presidents, general managers, general superintendents, division superintendent's assistants & other departmental personnel	3,444	2	3,446	24.90%
(c) Traffic Department - Vice-Presidents, freight traffic managers, passenger traffic managers, general freight & passenger agents, & other departmental personnel	1,656		1,656	11.96%
(d) Purchasing & Stores Department - Vice-Presidents, general purchasing agents, purchasing agents, general storekeepers, district storekeepers, division storekeepers, storekeepers, assistants & other departmental personnel	416	5	421	3.04%
(e) Mechanical & Electrical Department - Vice-Presidents, general superintendents of motive power, mechanical engineers, electrical engineers, shop engineers, master mechanics, shop superintendents, diesel supervisors & other departmental personnel	1,357		1,357	9.80%
(f) Engineering Department - Vice-Presidents, chief engineers, engineers maintenance of way, engineers bridge & building, division engineers & other departmental personnel	1,240	1	1,241	8.97%
(g) Signal & Communications Department - Signal engineers, superintendents of signals, communications engineers, superintendents of communications, other supervisory officers & departmental personnel	265	1	266	1.92%
(h) Railway Associations, clubs, reading rooms	372	20	392	2.83%
	10,356	50	10,406	75.17%
2. Industrial Companies' Traffic Departments - Vice-Presidents, Chief Shippers, General Traffic Managers, Traffic Managers & Assistants	107		107	0.77%
3. Railway equipment manufacturers & supply concerns, contractors	1,466	21	1,487	10.74%
4. Financial & management organizations	194	1	195	1.41%
5. Colleges, instructors, students, public libraries, clubs & associations other than railway	527	269	796	5.75%
6. Miscellaneous	819	22	841	6.08%
8. Awaiting Classification by Industry	11		11	0.08%
TOTAL PAID SUBSCRIPTION CIRCULATION FOR THE MAY 2, 1960 ISSUE	13,480	363	13,843	100.00%

4. GEOGRAPHIC ANALYSIS OF TOTAL PAID CIRCULATION FOR THE MAY 2, 1960 ISSUE: (Not an average for 6 months)
NOTE—Total paid circulation of this issue was 0.01% less than average total paid circulation for period.

STATE	Subscriptions	%
Maine	72	
New Hampshire	24	
Vermont	32	
Massachusetts	299	
Rhode Island	12	
Connecticut	118	
NEW ENGLAND	557	4.02
New York	1,347	
New Jersey	311	
Pennsylvania	1,110	
MIDDLE ATLANTIC	2,768	19.98
Ohio	897	
Indiana	328	
Illinois	1,484	
Michigan	337	
Wisconsin	192	
EAST NORTH CENTRAL	3,238	23.37
Minnesota	478	
Iowa	148	
Missouri	538	
North Dakota	78	
South Dakota	26	
Nebraska	154	
Kansas	169	
WEST NORTH CENTRAL	1,591	11.49
Delaware	21	
Maryland	310	
District of Columbia	230	
Virginia	498	
West Virginia	212	
North Carolina	178	
South Carolina	67	
Georgia	240	
Florida	159	
SOUTH ATLANTIC	1,915	13.82
Kentucky	134	
Tennessee	165	
Alabama	172	
Mississippi	67	
EAST SOUTH CENTRAL	538	3.88
Arkansas	61	
Louisiana	104	
Oklahoma	90	
Texas	405	
WEST SOUTH CENTRAL	660	4.77
Montana	75	
Idaho	25	
Wyoming	27	
Colorado	120	
New Mexico	29	
Arizona	51	
Utah	51	
Nevada	17	
MOUNTAIN	395	2.85
Alaska	11	
Washington	198	
Oregon	110	
California	554	
Hawaii	1	
PACIFIC	874	6.31
Single Copy Sales	11	0.08
Miscellaneous		
Unclassified		
UNITED STATES	12,547	90.57
U. S. Possessions & Other Areas	2	0.01
U. S. & POSSESSIONS, etc.	12,549	90.58
Canada	647	4.67
Foreign	648	4.68
Miscellaneous Excluding U. S. Military or Civilian Personnel Overseas	10	0.07
GRAND TOTAL	13,854	100.00

Railway Age

ANALYSIS OF THE TOTAL NEW AND RENEWAL SUBSCRIPTIONS SOLD AND REPORTED IN PARAGRAPHS 5-6-7-8

During the 6 months Period Ending June 30, 1960

5. AUTHORIZED PRICES and total subscriptions sold:

(a) Basic prices: Subscriptions 1 yr. $4.00; 2 yrs. $6.00.... Single copy 60c	
(b) Prices higher than basic: Countries in Western Hemisphere except U. S. Possessions, Canada and Mexico, 1 yr. $10.00 for Railroads and railroad employes; Countries in Eastern Hemisphere except U.S. Possessions, 1 yr. $15.00 for Railroads and railroad employes; other than Railroads and railroad employes for all countries 1 yr. $25.00. For all other than Railroads and railroad employes in the United States, U. S. Possessions and Canada, 1 yr. $14.00. Professors in Colleges 1 yr. $10.00. Introductory offer to all other than Railroads and railroad employes in the U. S. Possessions and Canada, 1 yr. $5.00, 13 mos. $5.00, 25 mos. $6.00, 25 mos. $7.00, 25 mos. $8.00, 24 mos. $7.00, 24 mos. $8.00	3,071
(c) Reduced prices:	
1. Combination sales prices	None
2. Combination or basic prices	None
3. Quantity prices: In quantities of 5 or more, 1 yr. $10.00	144
4. Special reduced prices: 13 mos. $4.00, 25 mos. $6.00, 6 mos. $1.00 to railroad men only	208
(d) Association subscription prices	None
Total Subscriptions Sold in Period	3,423

6. CHANNELS OF SUBSCRIPTION SALES:

(a) Ordered by mail	3,018
(b) Ordered through salesmen:	
1. Catalog agencies and individual agents	361
2. Publisher's own and other publishers' salesmen ...	44
3. Independent agencies' salesmen	None
(c) Association memberships	None
(d) All other channels	None
Total Subscriptions Sold in Period	3,423

7. USE OF PREMIUMS:

(a) Ordered without premium	3,423
(b) Ordered with material reprinted from this publication	None
(c) Ordered with other premiums	None
Total Subscriptions Sold in Period	3,423

8. DURATION OF SUBSCRIPTIONS SOLD:

(a) For three years or more	7
(b) For two years or more but less than three	1,689
(c) For one year or more but less than two	1,629
(d) For less than one year	98
Total Subscriptions Sold in Period	3,423

ADDITIONAL CIRCULATION INFORMATION

9. SUBSCRIPTIONS SERVICED PENDING RENEWAL AND EXTENSIONS:

(a) Subscriptions serviced, as of the May 2, 1960 issue, for 1 issue to 3 months beyond expiration pending renewal	1.05%
Is above representative of condition of list for all other issues covered by this statement?	Yes
(b) Extensions	None

10. COLLECTION STIMULANTS:

None

11. RENEWALS:

(a) Subscriptions Other than Bulk 82.22%

82.22% of the subscriptions that expired during the 12 months ending October 31, 1959, renewed.
6,998 of the 8,511 expirations renewed.

(b) Subscriptions: Bulk 90.80%

90.80% of the subscriptions that expired during the 12 months ending October 31, 1959, renewed.
306 of the 337 expirations renewed.

12. EXPLANATORY:

(a) Par. 1: Group Subscriptions represent copies served on yearly subscriptions sold to Railways and Railway Supply Companies in quantities of 5 to 585 at basic subscription prices and at quantity prices in Par. 5(c-3) for their branch offices and employes. Copies were mailed by publisher in individual wrappers, direct to names and addresses furnished by purchasers.

(b) Par. 1: Bulk Subscriptions represent copies served on yearly subscriptions sold to railways and railway supply companies in quantities of 5 to 27 at basic subscription price, mailed in bulk to purchasers for redistribution and to names and addresses furnished by the purchasers.

(c) Par. 1: Single Copy Sales represent an average of 4 copies per issue sold in quantities of 1 to 4 and an average of 7 copies sold in quantities of 5 to 50 at 60c each, distribution by purchasers.

We hereby certify that all statements set forth in this statement are true.

R. C. VAN NESS
Director of Circulation

ROBERT G. LEWIS
Publisher

Date Signed July 15, 1960.

DON'T TAKE OUR WORD...

RAILWAY AGE CAN HELP YOU,

AS IT'S HELPING THOUSANDS OF YOUR FELLOW RAILROADERS WEEK AFTER WEEK

HERE'S WHAT THEY SAY:

"Railway Age is particularly good for the Traffic Department—I clip these magazines for reference."—Asst to Gen Frt Agt

"In many issues I have made notes and clipped items. I mainly use the editorials for reference when preparing speeches."—Supervisor Labor Relations

"It's a 'bible' for railroad men. I quote from it often, and so do others."—Asst to Gen Supt Transportation

"I file them for years and refer to them. There is always something of use in every issue."—Asst to Gen Mech Supt

"A good source of information because we do not always get the full details in the office."—Assistant Auditor.

"This is the only railway magazine I read. It's so good I never bother to read the other one."—General Superintendent Transportation

"I like Jim Lyne's column. I know he is in contact with the big men in the industry, yet he writes his column for us lower down too."—Senior Draftsman

"I particularly like the Transportation articles, and Railroading After Hours"—President and General Manager

"It's the best in its field."—Manager, Railroad Products Division

"We discuss Railway Age at staff meetings. I call the superintendents' attention to items of importance to us."—Asst Gen Mgr

"I learn what other roads are doing and Railway Age influences my discussions on future purchases with members of our company."—Chief Engineer

"I had an old car here I did not know what to do with. The article on 'Damage Reducer' gave me an idea on how to fix it."—General Foreman

"Best railroad publication." Railroad Security Analyst

"It's surprising how many shippers will ask if I've read articles in Railway Age. It helps me to read it. The editorials really help me in answering questions on railroad matters."—Traffic Representative

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PASS-ALONG READERS

A personal subscription to Railway Age *assures* your not missing out on any of the factual reports Railway Age provides week after week.

PRESENT SUBSCRIBERS

The subscription card in this issue is for NEW subscribers. If you are already personally subscribing, why not pass the form to one of your associates. Thank you.

—Use The Handy Subscription Order Card Bound In This Issue—

AN IMPORTANT MESSAGE TO THE RAILROAD INDUSTRY:

Let's clear up all the confusion about hot box detection devices

Railroadmen deserve straight answers to basic questions. Here, Servo supplies them.

Various attempts have been made over the years to solve the hot box problem. While hot boxes still have not been eliminated, major advances have been made in their *detection.*

Eight years ago, electronic engineers of Servo Corporation of America went to work to develop an advanced system of infrared hot box detection. Today, as the result of their timely scientific breakthrough, twenty-six major Class I American railroads are guarding rights-of-way with hundreds of SERVOSAFE® Hot Box Detective† installations.

According to conservative estimates, SERVOSAFE Hot Box Detectives are currently inspecting an average of 467,000,000 journals per year.

Other manufacturers, witnessing the railroads' rapid acceptance of the revolutionary SERVOSAFE system, have naturally attempted to develop parallel systems. However, various misconceptions have arisen concerning hot box detection devices—misconceptions concerning basic scanning methods, optimum scanning locations, placement of equipment, and other fundamentals.

As pioneers and leaders in the development of hot box detection equipment, with years of research and actual application experience to lend support, we feel it is our duty to the railroad industry to set the record straight.

Q—How effective are hot box detection devices today?

A—The fact that some two hundred SERVOSAFE Hot Box Detective systems are in successful operation on twenty-six major Class I railroads leaves little doubt about the feasibility of this patented, time-tested safety system. Several roads have installed the equipment on a system-wide basis. New roads are adding the SERVOSAFE system every day. At an interchange point on the Reading Company lines, for instance, a number of hot boxes were going by undetected on incoming cars. Ever since installation of the SERVOSAFE system at this critical point, however, hot boxes have been detected consistently on both sides of the train.

Q—Can equipment cost be justified?

A—In recent years, on the average, hot boxes have cost American railroads $8-10 million annually as the result of derailments, damage, and delay. But consider the cost of just a single derailment—its broader consequences, cost of possible litigation, etc. In the words of a Pennsylvania Railroad official, "*...save one wreck...and the* SERVOSAFE *Hot Box Detective system has paid for itself.*"

Q—How about performance reliability?

A—Day in, day out, in all kinds of weather, no passing journal can escape inspection and detection by the infrared trackside scanners. Many roads are reporting better than 90 per cent efficiency using SERVOSAFE Hot Box Detectives...in some instances, as high as 100 per cent.

Q—Does the equipment actually measure bearing "temperature"?

A—No. No hot box detection equipment can claim to measure the "temperature" of an overheated bearing as such. To maintain this is definitely misleading. However, measurement of specific bearing temperature is not the real issue. In the development of the SERVOSAFE Hot Box Detective system, Servo engineers investigated this approach as well as a number of others. Absolute temperature measurement was ruled out as impractical and unnecessary. Comparative or relative heat measurements are the key, as explained in the following paragraph.

Q—How are hot boxes detected?

A—Take the SERVOSAFE Hot Box Detective. Trackside scanners inspect each passing journal; a chart recorder at a convenient control location simultaneously records relative heat level of each journal. The scanners can read all types of journal bearings—friction, sleeve, and roller types. Heat sources other than journals are screened out through electronic circuit discrimination, so that false indications are minimized. Each journal is represented by a "pip" on the chart (Fig 1). Normal journals show peaks of approximately the same height. Abnormally high peaks, signifying overheated journals, are readily apparent. Exact location of the defective journal can be determined by counting the number of pips.

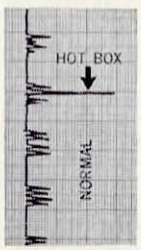


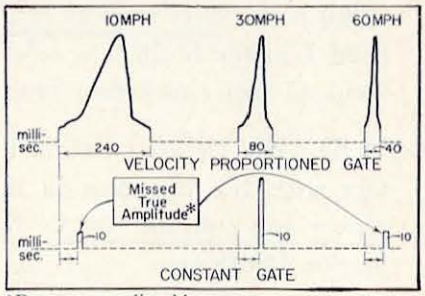
Fig. 1—Tall "pip" on chart pinpoints hot box.

Q—Why are thermal detectors superior to photo detectors for journal heat detection?

A—Simply because devices such as photo detectors can easily give rise to false indications. Instead of giving consistent sensitivity over a broad range of infrared wavelengths, photo detectors show much greater sensitivity in the near infrared spectrum (say, for reflected sunlight) than in the intermediate infrared spectrum where journal box radiations are peaked. Thermal detectors, by comparison, have uniform sensitivity throughout the spectrum from visible to far infrared. In other words, they are not any more sensitive to extraneous radiation than to target radiation. Significantly, Servo has been one of the pioneers in infrared for aerial reconnaissance, submarine detection, and industrial process control since World War II.

Q—Why is the method of "gating" so important?

A—By "gating", of course, we mean the interval in which the scanner views the journal and the recorder charts the amplitude of the heat pulse. "Constant gate" systems record heat pulses only during a constant time interval. As a result, different areas of the journal box are viewed at different train speeds. Chief drawback of the constant gate is the distinct possibility of completely missing hot boxes. (Fig. 2) The SERVOSAFE "velocity proportioned gate" on the other hand, always views the same area of the journal box—always records comparative heat pulses—regardless of train speed.



*Due to causes listed in text.

Fig. 2—Type of gating is critical. With "constant gate" systems, hot boxes may actually be missed entirely. The above curves indicate possible displacement of gate impulse relative to heat impulse due to varying train speeds, not to mention such other causes as lateral motion of wheel flange, depth of flange, askew trucks, scanner alignment, and rail creepage. Note that constant gate may lead or lag the important part of the heat profile. In the constant-gate situation depicted, wheel-transducer location has been assumed optimum for 30 mph train speed; misleading information is obtained at speeds of 10 and 60 mph.

In the Servo velocity proportioned gate system, the gating impulse is long compared to the heat impulse, assuring bracketing of the heat impulse regardless of the listed causes for shifting of the gate impulse.

In the case of a narrow, constant gate impulse which is short compared to the heat impulse, the "jitter" of the gate impulse due to the listed causes allows the possibility of missing hot boxes.

New Goals f

By A. S. Lang
Assistant Professor of
Transportation Engineering
Massachusetts Institute of Technolcgy

Are railroads lagging behind their competitors in efforts to improve and exploit their technological advantages? Professor Lang thinks they may be, and in the following article he cites automatic train operation and "rationalizing the railway freight vehicle" as two cases in point.

The views expressed below are the author's own, of course. Railroaders are sure to find the ideas challenging, whether they agree with them or not.

A former D&RGW officer, Mr. Lang has been at M.I.T. since 1956. He instructed at the Army's transport school, Ft. Eustis, Va., in 1952-55.

If the technology of modern transportation is examined in detail and the principal characteristics of each mode outlined, it is possible to identify those elements which render a transport system both serviceable and economical.

Rail transport stands up well in such a comparison. Such an inquiry suggests, in fact, that railroads are very nearly the technological ideal for general-purpose freight transportation.

Among the major factors working in favor of rail transport are these: high capacity per unit of plant investment; capability to accept a wide range of cargoes; extremely low energy and manpower requirements, and minimum problems of movement control.

Such factors, working, so to speak, for the railroads, help explain why these carriers are still able to command close to half of the total inland freight transportation market—in spite of an outmoded rate structure, outmoded labor contracts, outmoded regulation.

In the light of such an analysis it is a matter of much concern that railroads are not moving ahead at a faster rate to exploit their technological advantages. Some progress is being made, but nothing which measures up to the potential. As an example, the possibilities for a further increase in the speed and reliability of service are tremendous. The possibilities for practically complete flexibility of origin and destination by means of rail-truck coordination are increasingly apparent. The possible reductions in line-haul and yard operating costs through improved technology are truly exciting.

Railroad transportation will not, however, realize its potential in these and other areas without difficulty. Time is

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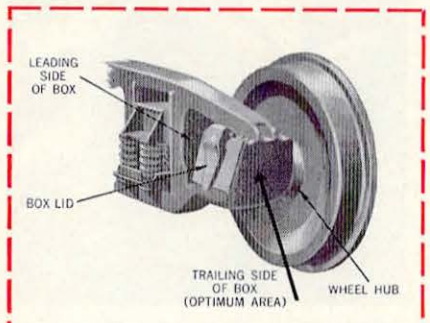

Fig. 3—Servo railroad tests confirm that the best viewing area is the back of the journal box.

running abnormally hot—or temperature is rising rapidly enough to suspect a hot box may be developing. Therefore, the area the scanner views must simultaneously (a) be as close to actual journal brass temperature as possible, and (b) rapidly respond to temperature changes. Tests conducted by a major Eastern railroad** prove that the optimum accessible area satisfying both these basic requirements is the back of the journal box (Fig. 3), the spot which presents a low-mass path of thermal flux from the bearing. The SERVOSAFE "slant-aspect viewing" method of scanning this optimum spot is guarded by Servo patents both in the U.S. and abroad.

**(Name on request)

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Q—How about power requirements?

A—While power requirements for operation of the SERVOSAFE system are stated as 850 watts, it should be understood that most of this power (750 watts) is consumed in heating the units—for melting snow and keeping the ambient temperature high within the scanner head. Power requirements for operation of the SERVOSAFE detector, exclusive of heaters (50 watts), are actually less than those specified for competitive detectors.

Q—How about remote operation?

A—The SERVOSAFE system is capable of transmitting information over any standard communication channel—direct wire, carrier, or microwave. SERVOSIG® Carrier transmits accurate data up to 40 miles over open wire lines with minimum distortion and noise (15 miles using telephone cable of #16 AWG wire or larger). However, standard voice-frequency repeater amplifiers may be employed to extend these distances up to 100 miles or farther. (Fig. 5)

Q—Isn't site selection quite important?

A—Quite definitely. Site location, type of system—both are extremely important considerations. With eight years of development and application experience to draw upon, SERVOSAFE engineers are able to recommend the optimum location for the precise SERVOSAFE system to handle each individual hot box detection problem.

Q—Isn't system flexibility an important consideration, too?

A—Yes, of course, flexibility is fundamental. The SERVOSAFE Hot Box Detective is available in six operational systems to meet all possible requirements—yard and terminal inspection, interchanges, main line right of way, intermediate inspection, bridge, tunnel, and hazardous location protection, etc. In addition to the basic SERVOSAFE system, there are five flexible expanded system Groupings to choose from —all proved and in successful operation.

Fig. 4—Trainman checks Grouping IV Hot Box Locator (basic system plus automatic alarm with carrier; wayside recorder) at remote location on main line.

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Fig. 5—Boston & Maine dispatcher has hot box information flashed to Boston office from detection point approximately 90 miles away over leased New England Telephone lines. System also employs Grouping I SERVOSIG Carrier.

Q—What about training of railroad personnel?

A—Servo's Railroad Products Division conducts regular SERVOSAFE Training Schools both at the plant and in the field, depending upon the individual railroad's needs. Railroad personnel are thoroughly trained in operation and maintenance of the equipment.

Q—What's the story on maintenance?

A—All components of the SERVOSAFE system—trackside scanner, wayside equipment, office equipment—follow the modular "building block" principle to make the equipment easy to check, adjust, and maintain. And as an added safety feature for personnel, the system is designed so that only the minimum necessary equipment is placed at trackside. Other components are housed in a standard wayside signal case out of the way of traffic. All tests may be conducted at the signal case.

Q—How about purchasing arrangements and delivery?

A—Both purchase and lease arrangements are available. Immediate delivery on the basic SERVOSAFE system...slightly longer on one of the five other expanded system Groupings. Specifically, if the basic system is ordered today, it will be shipped in 48 hours or less.

Here, we have attempted to provide straight answers to some of the principal questions being asked today. If you have further questions—or if you would like to discuss the requirements of your particular road – contact the Railroad Products Division. A SERVOSAFE railroad specialist is waiting to help you. There are sales and service specialists in key areas. ■

†Protected by U.S. & Foreign Patents, including U.S. Patents No. 2,880,309 and No. 2,947,857. Other U. S. & Foreign Patents Applied For.

SERVO CORPORATION OF AMERICA
111 New South Road • Hicksville, L. I., N. Y. • WEIls 8-9700
Railroad Products Division
SERVOSAFE® HOT BOX DETECTIVE† SYSTEMS
RAILROAD RADIO COMMUNICATIONS SYSTEMS

C&O Task Fo

To Shave P&

► **The Story at a Glance: C&O is out to achieve savings of $1.1 million a year through:**

- **Effecting economies in the cost of purchasing and stores activities.**
- **Reducing inventory lock-up.**
- **Increasing the value of the purchases and stores department to using departments.**

Here's how C&O hopes to do it.

Eighteen months ago, Chesapeake & Ohio's purchasing and stores department set up a special task force to take a long, hard look at operations where more efficient practices might shave costs.

"We recognized the necessity of examining what we are doing in terms of ultimate computerization of our procurement and disbursement activities," says W. J. Eck, C&O administrative planning officer.

The six members of the task force went to work in February 1959.

They visited points on the railroad to pinpoint problems that existed on the user level.

They interviewed official and supervisory personnel in purchasing and stores, accounting, operating and maintenance departments.

They analyzed all available financial information on inventory lock-up and procurement and distribution.

They evaluated quantitative data on purchasing order volume, store room issue and "personnel head-count"—the number of employes involved.

And they examined thoroughly the existing organizational structure of the purchases and stores department.

It was that study which resulted in the conclusion that the C&O could save $1.1 million annually.

The team pointed out seven problems which, when solved, could result in "these potential benefits." There is need, the survey team said, to:

- Revise procurement and distribution practices to reduce material replacement time and procurement costs, buffer inventory stocks, and excessive internal distribution.
- Initiate better planning and coordination of material and supplies requirements to insure availability of material and minimize inventory lock-up.
- Develop more effective inventory management practices that will (1) dif-

You Ought To Know...

Transcontinental sleeping car service in Canada will be cut back to one daily train on each of the two major roads, effective Sept. 24. The CPR's "Canadian" and the CNR's "Super Continental" will continue to offer present transcontinental accommodations, but the CPR's "Dominion" and CNR's "Continental" will handle only coach, mail and express traffic plus sleeping car accommodations in certain local areas only. Announcement of the change was made in a joint statement by presidents of the two roads last week.

Use of prop-jet air freighters may bring rates as low as $6 to $8 per hundred pounds for a coast-to-coast flight. The present average is about $19. Far lower costs of prop-jet operation will make the reductions possible, according to a top officer of Flying Tiger (which has a fleet of Canadair CL-44s on order).

A stripped-down version of General American's G-85 piggyback car will go into production next month. Designed for use with removable auto frames, the car (designated C-85) is basically a G-85 with its shock absorber mechanism but without trailer stanchions; guide rail; bridging plate, rail and rail seat and their mechanisms. Modifications cut almost 15% from the cost of a standard G-85. Piggybacking gear can be added if and when the car is needed for regular TOFC service.

Illinois Central this month marks the completion of 40 years of monthly advertising in on-line newspapers. IC's "investment in understanding" has appeared in all on-line newspapers in 346 cities and towns each month since September 1920 following the end of federal control of the railroads after World War I.

A continued temperate approach to the work rules dispute seems to be BLE policy under new Grand Chief Roy E. Davidson. Like Guy L. Brown, his predecessor, Mr. Davidson declares that the BLE and other unions have "no intention of permitting any reduction in the standard of living of the men we represent. But as responsible organizations we have an obligation to study this question of how modern our agreements are. We must be able to justify each and every rule on the basis of today's operation conditions, not on the basis of how trains were run 40 years ago or more."

An 80-acre Transportation Section, to be developed and operated on a self-supporting basis by the Port of New York Authority, is planned for the 1964-65 New York World's Fair. Exhibitors may erect their own buildings on leased sites. A building for the common use of a number of exhibitors will be constructed if necessary.

A $500,000 grant has been made by the Ford Foundation to the RAND Corp. of Santa Monica, Calif., for a three-year exploratory study of U. S. urban transportation. The grant is intended to "stimulate long-range planning and development in urban transportation, both in the transportation industry itself and in local and federal government." RAND is a private, nonprofit research and development organization.

Wheat loadings in MoPac territory are up about 23%—an increase of more than 3,000 cars for MP over actual loadings last year. Total winter wheat production is estimated as the second largest crop on record, topping last year's by 18%.

A system-wide strike of some 18,000 maintenance and shop employees represented by the Transport Workers Union may hit the Pennsylvania Sept. 1. With all strike-preventing legal steps exhausted, a PRR spokesman indicated the walkout might take place—but expressed the hope it wouldn't last long. At issue is a three-year dispute on job classifications and work rules.

Railroad employment in mid-July stood at 794,140—6.03% below July 1959. Biggest drop was among maintenance of way and structures employees, 8.05%.

One steel road strike was settled in Pittsburgh last week, just a few days before another one broke out. The BRT and the Monongahela Connecting reached agreement after a two-day walkout shut down the railroad and, consequently, Jones & Laughlin Steel Corp.'s operations. Then, on Aug. 18, 1,100 members of the United Steelworkers (non-operating employees) struck the Union Railroad in a wage dispute. URR has offered settlement on terms already accepted by the BLE, but the Steelworkers are holding out for settlement on the Big Steel pattern.

Entries are now being received for the tenth annual "Golden Spike" advertising awards competition. The Association of Railroad Advertising Managers presents the award for the most outstanding advertising contribution to a better understanding of the importance of railroads or the promotion of rail freight or passenger traffic.

A color motion-picture film will be produced by Southern Illinois University in cooperation with the National Defense Transportation Association. Purposes of the film: to dispel popular misconceptions about transportation, encourage young people to seek careers in the industry, and stimulate interest in transportation education.

No passenger was killed but 110 were injured in June's train and train-service accidents, according to the ICC's preliminary summary. Passenger injuries were the same in June 1959, when there was one passenger fatality. In this year's first six months, the passenger fatalities totaled 24 and the injuries 805. In last year's first half, seven passengers were killed and 655 injured. Ninety-eight employees on duty were killed in this year's first six months, compared with 85 employee fatalities in the same period last year. June's employee fatalities totaled 14, compared with 12 in June 1959.

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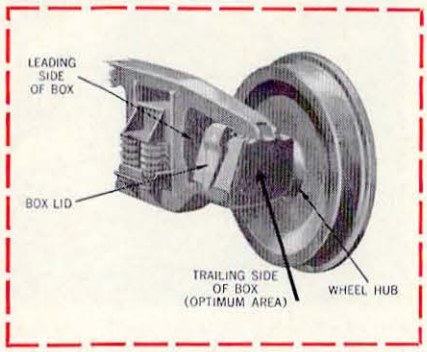

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A—While power requirements for operation of the SERVOSAFE system are stated as 850 watts, it should be understood that most of this power (750 watts) is consumed in heating the units—for melting snow and keeping the ambient temperature high within the scanner head. Power requirements for operation of the SERVOSAFE detector, exclusive of heaters (50 watts), are actually less than those specified for competitive detectors.

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Fig. 5—Boston & Maine dispatcher has hot box information flashed to Boston office from detection point approximately 90 miles away over leased New England Telephone lines. System also employs Grouping I SERVOSIG Carrier.

Q—What about training of railroad personnel?

A—Servo's Railroad Products Division conducts regular SERVOSAFE Training Schools both at the plant and in the field, depending upon the individual railroad's needs. Railroad personnel are thoroughly trained in operation and maintenance of the equipment.

Q—What's the story on maintenance?

A—All components of the SERVOSAFE system—trackside scanner, wayside equipment, office equipment—follow the modular "building block" principle to make the equipment easy to check, adjust, and maintain. And as an added safety feature for personnel, the system is designed so that only the minimum necessary equipment is placed at trackside. Other components are housed in a standard wayside signal case out of the way of traffic. All tests may be conducted at the signal case.

Q—How about purchasing arrangements and delivery?

A—Both purchase and lease arrangements are available. Immediate delivery on the basic SERVOSAFE system...slightly longer on one of the five other expanded system Groupings. Specifically, if the basic system is ordered today, it will be shipped in 48 hours or less.

Here, we have attempted to provide straight answers to some of the principal questions being asked today. If you have further questions—or if you would like to discuss the requirements of your particular road – contact the Railroad Products Division. A SERVOSAFE railroad specialist is waiting to help you. There are sales and service specialists in key areas. ■

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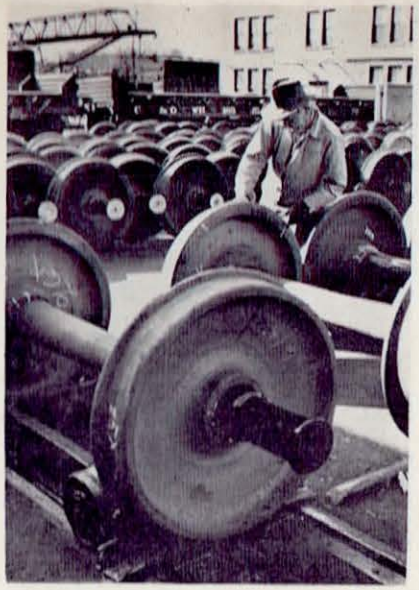
Railroad Products Division | SERVOSAFE® HOT BOX DETECTIVE† SYSTEMS
RAILROAD RADIO COMMUNICATIONS SYSTEMS

C&O Task Force Seeks To Shave P&S Costs



GOAL: To insure availability of material and supplies at place and time needed at lowest possible cost.

► **The Story at a Glance: C&O is out to achieve savings of $1.1 million a year through:**

- **Effecting economies in the cost of purchasing and stores activities.**
- **Reducing inventory lock-up.**
- **Increasing the value of the purchases and stores department to using departments.**

Here's how C&O hopes to do it.

Eighteen months ago, Chesapeake & Ohio's purchasing and stores department set up a special task force to take a long, hard look at operations where more efficient practices might shave costs.

"We recognized the necessity of examining what we are doing in terms of ultimate computerization of our procurement and disbursement activities," says W. J. Eck, C&O administrative planning officer.

The six members of the task force went to work in February 1959.

They visited points on the railroad to pinpoint problems that existed on the user level.

They interviewed official and supervisory personnel in purchasing and stores, accounting, operating and maintenance departments.

They analyzed all available financial information on inventory lock-up and procurement and distribution.

They evaluated quantitative data on purchasing order volume, store room issue and "personnel head-count"—the number of employes involved.

And they examined thoroughly the existing organizational structure of the purchases and stores department.

It was that study which resulted in the conclusion that the C&O could save $1.1 million annually.

The team pointed out seven problems which, when solved, could result in "these potential benefits." There is need, the survey team said, to:

- Revise procurement and distribution practices to reduce material replacement time and procurement costs, buffer inventory stocks, and excessive internal distribution.
- Initiate better planning and coordination of material and supplies requirements to insure availability of material and minimize inventory lock-up.
- Develop more effective inventory management practices that will (1) differentiate between the techniques used in controlling high-value, high-usage items, and those of lesser value and usage; and (2) provide means for identifying surplus and obsolescent material.
- Extend scope of and intensify material simplification and standardization program to reduce inventory and total material costs to consumers.
- Institute better management reporting techniques to provide more effective control over inventories and surplus materials and to better measure actual results against planned performance.
- Revise organization of purchasing and stores to direct emphasis to those kinds of activities that will improve the level of services or can influence profits most favorably.
- Explore opportunities to apply more sophisticated data processing techniques to purchases and stores routines.

One big result of the survey team's findings was to streamline the entire area that had been studied.

In September 1959 Mr. Eck was named administrative planning officer with headquarters in the C&O general offices at Cleveland. Two months later, T. R. Grady, then assistant purchasing agent, was named methods and procedures officer, with headquarters at Huntington, W. Va. His function was to examine procedures leading to standardization and simplification of materials and methods. And in January of this year—as a result of the study's indicating more impetus could be given to the simplification and standardization program already in effect—R. L. Weed, then road inspector, was named material standards officer, also with headquarters at Huntington, W. Va.

The three officers function primarily as a liaison team to coordinate the activities of the purchasing, stores and using departments.

"Our major function," says Mr. Eck, is to "help insure the availability of material and supplies at the place and time needed, to find ways to reduce total delivered costs at the point of use, and to reduce inventory lock-up."

He points out that while the committee found problem areas and inefficient practices, it also found many areas where existing practices could be expanded to result in greater efficiency and money saving.

For example, inventory control is a major problem and one where the improvement area is potentially big, particularly in program and AFE (authority for expenditure) projects.

For a long time before the setting up of the survey committee, the C&O had an extensive practice of blanket orders for direct release of stock items of material, eliminating rehandling in the general store for distribution.

Soon the C&O expects to expand and make more efficient use of blanket orders by means of a cyclical release arrangement based on an annual dollar value per stock item by individual stores, rather than on a release arrangement based on a 60 or 90 day consumption, for example.

While there are many existing formulas for determining annual dollar value and economic ordering, the C&O formula includes only three factors: cost of money tie-up in inventory, cost of preparing orders and releases, cost of processing invoices in both the stores and the purchasing departments.

Overhead, obsolescence, accounting costs, etc., are not included in the C&O formula, Mr. Eck emphasizes.

The cyclical ordering basis is applied to individual items and to groups of items in an individual category. It will determine, on the basis of the annual dollar value provided by the formula, how many of an item or group of items should be purchased and whether the item or group of items should be purchased quarterly, semi-annually, or annually, for example.

When will cyclical ordering based on the formula become an established fact on the C&O?

As fast as consumption figures come from the using departments, says Mr. Eck. At some points the C&O could start tomorrow. At the outside, the program ought to be system-wide in another six months.

New Goals for RR Research

By A. S. Lang
Assistant Professor of
Transportation Engineering
Massachusetts Institute of Technology

Are railroads lagging behind their competitors in efforts to improve and exploit their technological advantages? Professor Lang thinks they may be, and in the following article he cites automatic train operation and "rationalizing the railway freight vehicle" as two cases in point.

The views expressed below are the author's own, of course. Railroaders are sure to find the ideas challenging, whether they agree with them or not.

A former D&RGW officer, Mr. Lang has been at M.I.T. since 1956. He instructed at the Army's transport school, Ft. Eustis, Va., in 1952-55.

If the technology of modern transportation is examined in detail and the principal characteristics of each mode outlined, it is possible to identify those elements which render a transport system both serviceable and economical.

Rail transport stands up well in such a comparison. Such an inquiry suggests, in fact, that railroads are very nearly the technological ideal for general-purpose freight transportation.

Among the major factors working in favor of rail transport are these: high capacity per unit of plant investment; capability to accept a wide range of cargoes; extremely low energy and manpower requirements, and minimum problems of movement control.

Such factors, working, so to speak, for the railroads, help explain why these carriers are still able to command close to half of the total inland freight transportation market—in spite of an outmoded rate structure, outmoded labor contracts, outmoded regulation.

In the light of such an analysis it is a matter of much concern that railroads are not moving ahead at a faster rate to exploit their technological advantages. Some progress is being made, but nothing which measures up to the potential. As an example, the possibilities for a further increase in the speed and reliability of service are tremendous. The possibilities for practically complete flexibility of origin and destination by means of rail-truck coordination are increasingly apparent. The possible reductions in line-haul and yard operating costs through improved technology are truly exciting.

Railroad transportation will not, however, realize its potential in these and other areas without difficulty. Time is short, moreover, because competing forms of transportation are pushing their own technology at a rapid rate.

Specifically, railroads must struggle to overcome two major obstacles:

- The first of these is the technological inertia inherent in the industry because of its very size and because the need for industry-wide standardization results in a long lead time for innovation.
- Second, and perhaps more important, many of the innovations which will produce the technological revolution in railroading are sufficiently unlike our present technology so that we cannot depend upon them to evolve simply as a matter of course.

If the industry is to realize its technological potential, then, it seems that at least two things must be done. First an early start must be made on researching those developments which appear likely to become technologically and economically feasible within the next few years, so as to insure against serious delay in their being put into use. Second, long range research studies aimed at the evaluation of major innovations and more specifically at the development of more complete systems of facilities and techniques should become a major part of the industry's regular activities.

Study More Than Hardware

An excellent example of the sort of large-scale, long-range technological innovation which the railroad transport industry must soon undertake is the problem of developing automatic train operations. As many have correctly pointed out, railroad transport is particularly susceptible to such operation. In the face of an inexorable advance in wage rates—a condition towards which our whole economy is striving—it is, in fact, no longer a question of *whether* we shall have automatic train operation, but merely a question of *when* we shall have it.

There has been some research on the technical details of this problem, but there has been almost nothing which one could call planning. One of the essential points which seems to have been overlooked is that there is much more to the problem than the mere development of control equipment for locomotive and wayside installation. Automatic train operation will affect the economics and the technology of literally the entire railway industry. It is these broader implications which are in the long run far more important than the question of what sort of hardware one needs to do this job. While we must do further research on hardware, the fact of the matter is that the bulk of this has long since been done by the railway supply industry. The real research job here is an inquiry first into the economics of such operation, second into the impact of such operation on the product of the entire railway plant, and third into the non-technical effects (such as displacement of personnel) of such an innovation.

'Systems' Approach Needed

Inasmuch as the potential savings to the North American railway industry run well into the hundreds of millions of dollars annually, it would seem that automatic train operation is a matter with which the railroads should be extremely concerned. Yet the industry has for practical purposes ignored the question altogether. One should note further that expecting the equipment suppliers to do more than a small part of the thinking on a "systems" problem so broad as this is quite unrealistic. As J. J. Wright of the New York Central pointed out in a recent Railway Age interview, "Rail suppliers naturally tend to be oriented toward individual products. By and large they don't do system research."

The problem is certainly one which in its ultimate form must be researched by the railroads themselves. The amounts of money required for such research are, moreover, so large that one cannot expect any individual railroad to do the job alone. The need is for an industry-wide attack, and one which will begin in the near future if the day of operative systems is not to be postponed longer than railroads can wait.

Another major systems problem, and one which fits into the category of the sort of long-range thinking that the industry needs to do, is the problem of rationalizing the railway freight vehicle. The two million freight cars with which the industry operates are even today a technological anachronism. In a very few more years as train speeds increase, reliability becomes more essential, and labor costs continue to rise, these cars will surely be hopelessly out of date.

Certainly everyone can agree that most of today's cars are designed for the competitive conditions of 1920 or thereabouts. Special service equipment built within recent years has only partially remedied this condition. The most important aspect of this problem is the effect which the mechanical char-

Philadelphia: Commuter-Aid Pact Signed

Contracts now have been signed in Philadelphia to implement a new commuter-aid program calling for the use of municipal funds to "purchase" low-fare train service from participating railroads. Looking on as Casimir Sienkiewicz, president of the non-profit Passenger Service Improvement Corp., signs the contracts are (left to right) E. Paul Gangewere, Reading president; A. E. Lyon, executive secretary, Railway Labor Executives' Association; Donald C. Wagner, Philadelphia managing director; Walter W. Patchell, PRR vice president; and Victor E. Moore, chairman of Philadelphia's special committee on mass transport.

SUNA Snubs Wage Settlement

The 7,000-member Switchmen's Union of North America last week posed the first real threat to an orderly windup of the remaining rail wage disputes. With all but a few locals reporting, the vote among SUNA's membership was running about 4-to-1 against accepting the pattern offer of a 4%, two-stage increase.

By snubbing the wage settlement which the big four—BLE, BLF&E BRT and ORC&B—have accepted, SUNA is running counter to the recommendations of an emergency board which proposed agreement on the pattern established by arbitration in the BLE dispute.

Only on a few small terminal properties did the membership favor accepting the 4% increase. Switchmen on major lines balloted heavily against settlement.

A union officer said the next step "will be further negotiation. I expect we'll be back in conference at the earliest possible date."

SUNA contends that the emergency board recognized existence of a wage inequity but then recommended that nothing be done now to correct it. Under the proposal submitted to the membership, SUNA would get the pattern—2% July 1 and 2% next March 1—and any inequity question unresolved in future discussions would be submitted to arbitration. In no event could any further adjustment be effective before Nov. 1, 1961.

The Switchmen's rebellion overshadowed another union turndown for another carrier proposal—involving separate meetings with the BLF&E on the fireman-off issue. Chiefs of the five operating unions reaffirmed their stand that the rules notices are "so broad and interrelated . . . that they affect all employees represented by these organizations." All notices, the chiefs said, should be handled in the conferences now set for Sept. 7 in Chicago.

A statement issued following the union chiefs' meeting in Cleveland called the carrier move an "industry effort to split their [the organizations'] solid front in the rules dispute." Carrier proposals had called for a conference with the BLF&E Aug. 30, followed by conferences with all the organizations Sept. 7.

In a letter to the carrier conference committees, the five chiefs declared: "It is not the desire of these organizations to avoid in any way our obligations under the Railway Labor Act. . . . All employees represented by us have an interest in the matters involved and we feel all notices served should be handled in the conference now set for Sept. 7."

Meanwhile, both the BLE and SUNA were planning meetings of general chairmen for last Friday, Aug. 19, the BLE in Cleveland, SUNA in Chicago.

Tri-State Rail Link Proposed for Commuters

A new proposal for solving part of the New York metropolitan area's suburban transit problems was announced last week by consulting engineer S. H. Bingham. In a report submitted to governors of New York, New Jersey and Connecticut, Colonel Bingham described a three-state high-speed commuter system that he says could be built at a cost that would not be prohibitive.

The keystone of the plan outlined in Colonel Bingham's proposal to the governors is use of existing trackage with a minimum of new construction. This would make it possible, the Bingham proposal says, to provide a unified system to the downtown and midtown areas of Manhattan from Bound Brook, New Jersey, Pleasantville and Ossining, New York, and Fairfield, Connecticut, at a cost of approximately $210,000,000. The figure would include the cost of acquiring new lightweight aluminum cars.

In New Jersey, the Bingham proposal envisions a rapid transit line from Bound Brook to Cranford on the Jersey Central and to Pennsylvania Station, Newark, over Lehigh Valley tracks, as recommended in the report to Governor Robert Meyner by the state Division of Railroad Transportation (RA, April 11, p. 36) under which New Jersey is making plans to buy a year's continuation of commuter service at a cost of approximately $6,000,000.

From Newark, the Bingham proposal would use the Hudson & Manhattan Railroad to reach New York. Taking over H&M operations completely, the Bingham proposal calls for service to downtown Manhattan through the present Cortland St. terminal and to uptown Manhattan by the present uptown H&M branch, which would be extended by a new deep rock tunnel three blocks east and eight blocks north to a connection with the tracks of the New York Central at Grand Central Terminal.

For Westchester commuters, Colonel Bingham proposes that the rapid transit line be extended over New York Central tracks to Ossining on the Hudson River and Pleasantville on the Harlem division. For Connecticut commuters, service could be extended over the New Haven route from Grand Central to Fairfield, Connecticut, Colonel Bingham says.

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Certainly everyone can agree that most of today's cars are designed for the competitive conditions of 1920 or thereabouts. Special service equipment built within recent years has only partially remedied this condition. The most important aspect of this problem is the effect which the mechanical char-

acteristics of these cars have on the performance capabilities of the railroad system as a whole. Here we find that the basic railway car is perhaps the most serious single obstacle to the realization of the full technological potential of railroad transport.

The present freight car is inefficient because of its high dead weight. It is unreliable, because it was designed for a much less demanding sort of service. It is expensive to operate, because of an outmoded system of brake control and a labor-consuming (though workable) coupling system. Its service capabilities are poor, because of an almost total lack until recently of any consideration for the larger physical process of which the line-haul is only a small and relatively inexpensive part.

Producing a rational railway freight vehicle seems clearly to involve starting from the steel wheels and working up. Nothing above the wheels can or should be considered sacred. This again is a job of considerable proportions. Clearly it is too large for an individual raliroad to undertake and impossible for an individual railroad to implement. Again, a programmed systems research effort is an absolute necessity. Again, because of the exceptionally long lead time involved in designing and building a fleet of new cars, this is a job whose inception the industry can scarcely afford to put off another day.

The two problems above, though somewhat dramatic, are by no means unusual. The railroad industry is faced with many problems of the same general nature. Among these are the problem of developing a more rational technique for distributing cars on both an intra and inter-railroad basis, the problem of developing more rational techniques of classifying cargo both on the car and off, and the problem of developing a truly efficient car reporting and accounting system.

All of these problems have a number of things in common. The first of these is that each has very extensive and profound implications for the operation and financial condition of the entire railway industry. Second, a *complete* study of any one of these problems could by itself cost more than the railroads are now spending for *all* types of research each year. Third, the study of such problems would require a very wide range of specialized talent, a good deal of which is not now presently available in the industry in any form, let alone in quantity.

In short, these problems require a type of study with which the railroad industry has very little familiarity and towards which they have, in the past at least, had almost no inclination. These are "systems" problems, and ones which require what is often called "program" research.

It is obvious, in any case, that this sort of study cannot in general be reasonably undertaken by an individual railroad. Not only do the ultimate advantages of such studies accrue to the entire industry rather than to individual railroads, but the costs and responsibilities are also greater than any one company can be expected to bear. If work of this sort is to be done, it can only be done under the auspices of several large railroads, or better yet, by the industry as a whole.

An important additional reason for undertaking such work on an industry-wide basis is that the subsequent implementation of new techniques and modes of operation would be greatly simplified if everyone had a personal stake in its outcome.

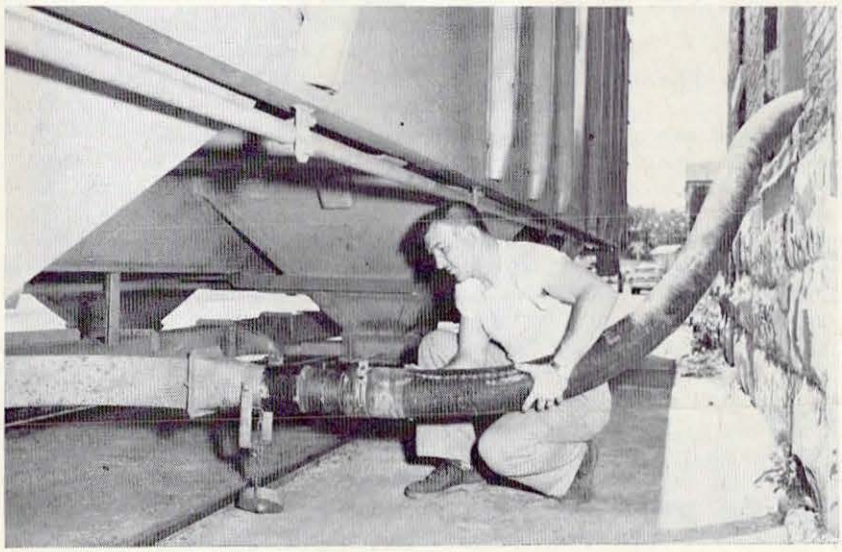
Each Road Can Help

Undertaking the study of such problems would not, however, obviate the need for an accelerated program of research on more detailed problems. This means quite simply, that there is no conflict between research studies of the sort suggested here and the research aspirations of individual railroads. Research programs on individual railroads would, in fact, be a necessary supplement to these larger projects.

Perhaps the most compelling thing about these problems is that the industry must necessarily face them at some time in the not-too-distant future. As suggested above, there is no question of *if*, but only a question of *when*. There is, moreover, no question but that if these problems are handled on a fragmentary and uncoordinated basis by a few railroads they will not be handled so well as if they were subjected to a planned program of coordinated research.

One cannot escape the conviction that this is the very sort of planning which the railroad industry individually and collectively has failed to push or even to recognize in the past. One needs only to look at those of the large industries which are currently enjoying the greatest measure of financial success to realize that long-range technological planning has become an essential ingredient of industrial progress in recent years.

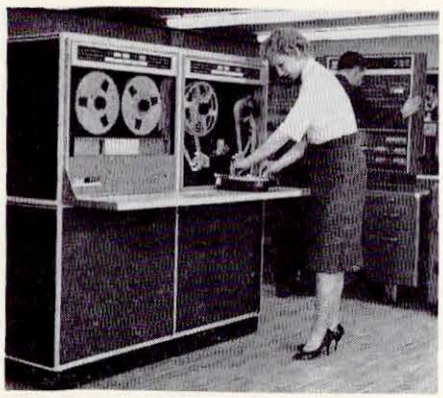
One could reasonably ask whether there will be any railroad industry in North America 20 or 30 years hence if it continues to ignore this more far-sighted type of planning. The very short range sort of capital improvement programs which railroads currently label as their planning effort certainly falls far short of the mark.



P-S Develops Single-Outlet Covered Hopper

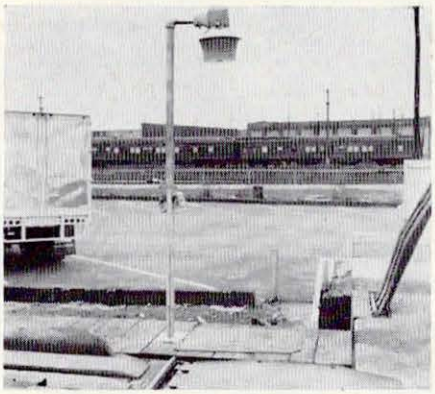
Only one hose connection is required for complete pneumatic unloading of Pullman-Standard's new PS-2 Pneu-X covered hopper car. Single-outlet design, P-S notes, saves time and labor involved in making multiple hose connections, also minimizes access problems where side clearances are tight. The car, developed for the handling of malt or other granular products, is designed to be entirely self-cleaning. It's gone through extensive testing, both in the lab and in actual operation hauling malt. Pullman-Standard developed the design in cooperation with Ladish Malting Company and a number of brewers, among them A. Gettelman Brewing Company and Olympia Brewing Company.

New Products Report



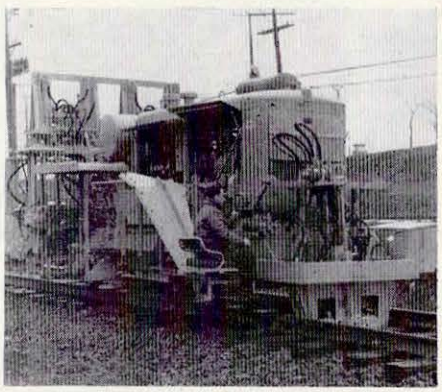
Converts to Magnetic Tape

The IBM 7765 converts paper tape to magnetic tape at the speed of 150 characters a second. Components are a paper tape reader with photoelectric reading mechanism and a magnetic tape writing unit. The machine accepts most paper tapes up to 6 bits per character position, including 5 track telegraphic code and IBM 8 track code. With modification, the 7765 will convert still other codes. The paper tape may be in three widths: 11/16, 7/8, or 1 inch, and in the form of reels, rolls, or strips. It will process both chad (punched hole) and chadless (punched flap) paper tape. The output tape is 7-track, 200-character-per-inch Mylar magnetic tape. Features include thorough error checking, and a center roll feed device which eliminates rewinding of paper tape rolls. The solid state converter needs no special air conditioning and no interconnection with other computer units. It requires a 115-volt power connection. *International Business Machines Corp., Data Processing Div., Dept. RA, 112 East Post Road, White Plains, N.Y.*



Outdoor Lighting

Four new luminaries are available for yard, roadway, and driveway lighting. The one-piece Suburbanaire Line 3C1 can be had with or without photoelectric control. It will accommodate medium or mogul-base incandescent lamps in sizes through 405 watts. Line 2A2 is equipped with an adjustable mogul socket, a one-piece heat-resistant glass reflector, and a 120/240, 277, or 240/480-volt constant wattage or reactor ballast, with or without photoelectric control. Post-top luminaires may be used with incandescent lamps rated through 10,000 lumens, or with mercury vapor lamps rated through 250 watts. A four-lamp fluorescent luminaire is equipped with a Peltier thermo-electric heat pump. Its light output at 77 deg F ambient temperature is said to be 72% higher than for the same luminaire without a cooling device. The Peltier device cools a very small area on lamp-bulb wall, maintaining mercury vapor pressure within lamp at optimum value for maximum light output. *Line Material Industries, McGraw-Edison Co., Dept. RA, Milwaukee 1.*



Track-Maintenance Machine

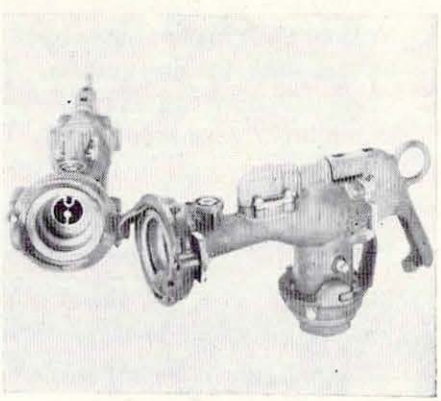
The Railway Maintenance Corporation has introduced a new machine designed to perform four track-maintenance operations. Designated the McWilliams "Combination" machine, it is based on the McWilliams 16-tool production tamper and is operated by one man.

The operations performed by the new machine include jacking the track, after determining low spots with a surfacing device; tamping ties; alining track and regulating or dressing ballast. The McWilliams Combination machine is equipped with hydraulic jacks at the front of the unit and has a special 16-tool tamping head, which is split four ways for tamping switches. The machine has an RMC LineMaster lining head and hydraulically controlled ballast regulating wings.

Powered by a diesel air compressor, the machine has manifolds at front and rear to permit use of other air tools, such as hand guns, spike drivers and torque wrenches. *Railway Maintenance Corporation, Dept. RA, Pittsburgh 30, Pa.*

Automatic Refueling Equipment

The SA12197-IC adapter assembly (left) incorporates a spring-loaded poppet type check valve which is open only during fueling operation. Automatic nozzles (right)—1½-in. No. 12194P and 2-in. No. 12190P—for use with the adapter have internal brass probes which actuate check valve in adapter, holding it open after nozzle shuts off and allowing fuel oil to drain into tank. *Buckeye Iron & Brass Works, Dept. RA, P.O. Box 883, Dayton, Ohio.*



Monday morning at the D&H

Wm. White, President, The Delaware and Hudson Railroad Corporation

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Simmons-Boardman Railway Publications, 30 Church St., New York 7, N. Y.

M&StL SALES DRIVE

(Continued from page 16)

Nobody's pretending that all the dangers have been avoided or all the problems wiped out. As consolidation time nears, there's a chance that some shippers may attempt to review their distribution of traffic to maintain prior relationships between C&NW (including M&StL tonnage) and other carriers. M&StL is trying to protect itself here—and thus far it's been a successful fight to retain business and attract new traffic.

Another and more personal problem, so far as M&StL people are concerned, lies in North Western's indication that consolidation will eliminate duplication of traffic offices at 34 locations. At the recent ICC hearing on the acquisition, the chairman of M&StL's executive committee noted that all members of the road's traffic department have been offered employment by C&NW. Still, North Western estimates merger will cut traffic expense by about 75%. M&StL has been spending about $1,337,000 annually (1958 figures) to support its traffic effort—and C&NW says consolidation will provide a saving of approximately $1,003,000, or a little more than one-third of the overall $3,000,000 annual savings merger is expected to produce. Among the overlapping functions to be eliminated: M&StL's industrial, rate-and-division and vice president-marketing offices.

Morale Remains High

A degree of uncertainty, however, hasn't kept M&StL's sales force from responding well to the twin challenges of impending consolidation and the road's marketing drive. Management has shored up morale with the clear indication that it isn't about to sit back and let the company coast the rest of the way.

It all goes back to what M&StL salesmen were told in their April 14 Sales Bulletin, issued just three days after the merger announcement:

"This is not to be a bulletin of platitudes. There will be no easy way for all of us throughout the months ahead. We on the M&StL face the most challenging selling job in our history . . . We are going ahead with our Marketing Program . . . Not one thing which we had plans for has been cancelled or altered because of the projected North Western-M&StL tie-up. (The) marketing program will be accelerated rather than discontinued. It needs your wholehearted loyalty and participation to make it effective and that effort will most certainly not be in vain."

MARKET OUTLOOK *at a glance*

Carloadings Rise 0.9% Above Previous Week's

Loadings of revenue freight in the week ended Aug. 13 totaled 599,908 cars, the Association of American Railroads announced on Aug. 18. This was an increase of 5,579 cars, or 0.9%, compared with the previous week; an increase of 55,339 cars, or 10.2%, compared with the corresponding week last year; and a decrease of 26,406 cars, or 4.2% compared with the equivalent 1958 week.

Loadings of revenue freight for the week ended Aug. 6 totaled 594,329 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CARLOADINGS
For the week ended Saturday, Aug. 6

District	1960	1959	1958
Eastern	82,684	77,707	89,546
Allegheny	94,454	77,101	103,292
Pocahontas	50,824	44,007	52,274
Southern	105,598	108,082	110,609
Northwestern	102,554	66,959	100,952
Central Western	110,302	109,200	113,384
Southwestern	47,913	49,203	49,147
Total Western Districts	260,769	225,362	263,483
Total All Roads	594,329	532,259	619,204
Commodities:			
Grain and grain products	64,107	53,619	67,172
Livestock	3,465	4,223	4,379
Coal	102,529	94,208	109,964
Coke	5,674	3,055	5,707
Forest Products	39,749	41,701	39,366
Ore	58,722	12,725	53,339
Merchandise l.c.l.	34,631	40,621	44,873
Miscellaneous	285,452	282,107	294,404
Aug. 6	594,329	532,259	619,204
July 30	614,236	544,862	622,678
July 23	619,784	536,395	608,065
July 16	607,081	585,073	582,244
July 9	456,330	552,313	491,566
Cumulative total, 31 weeks	18,581,511	19,019,290	17,215,934

PIGGYBACK CARLOADINGS.—U. S. piggyback loadings for the week ended Aug. 6 totaled 10,877 cars, compared with 7,722 for the corresponding 1959 week. Loadings for 1960 up to Aug. 6 totaled 326,940 cars, compared with 241,389 for the corresponding period of 1959.

IN CANADA.—Carloadings for the ten-day period ended July 31 totaled 95,736 cars, compared with 76,796 for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada		
July 31, 1960	95,736	32,848
July 31, 1959	125,062	34,787
Cumulative Totals		
July 31, 1960	2,113,394	842,150
July 31, 1959	2,185,902	829,242

New Equipment

FREIGHT-TRAIN CARS

► *Fruit Growers Express.*—Ordered 271 refrigerator cars from its Alexandria, Va., shops—211 40-ft, 50-ton cars and 60 50-ft, 70-ton cars. Production will begin in the fourth quarter.

► *New York Central.*—Despatch Shops are building 100 50-ft box cars with 15-ft doors and 200 50-ft box cars with 8-ft doors; also 50 70-ton box cars with 10-ft doors for use by the Pittsburgh & Lake Erie to haul coiled tinplate. All cars have special loading devices. Delivery will begin Sept. 16, 1960, be completed early in 1961.

► *Rail-Trailer.*—Ordered 100 85-ft piggyback flat cars from Bethlehem Steel for delivery beginning late September. Cost of the order is approximately $1,500,000.

LOCOMOTIVES

► *India.*—Will use proceeds of a $50-million loan from the Development Loan Fund for the procurement of electric locomotives ($10 million) and diesel locomotives and CTC equipment ($40 million). Diesel order will include 60 meter-gage, main-line locomotives; 40 broad-gage, main-line units; and 30 broad-gage switchers, all fully assembled; and 40 broad-gage, main-line units, to be partly assembled in India. CTC and related signaling equipment will be installed between all stations on two sections of India's Northeast Frontier Railway.

Purchases & Inventories

► *Five Months' Purchases Up 4.0%.*—Purchases by domestic railroads of fuel, material and supplies in this year's first five months were $25,476,000, or 4.0%, higher than in the comparable 1959 period. Purchase and inventory estimates in following tables were prepared by Railway Age.

*PURCHASES**

	May 1960	Five Months 1960	Five Months 1959
	(000)	(000)	(000)
Rail	$ 6,816	$ 35,022	$ 41,491
Crossties	6,043	26,912	18,800
Other Material	95,754	449,264	398,244
Fuel	27,970	149,711	176,898
Total	$136,583	$660,909	$635,433

*Subject to revision.

INVENTORIES†*

	May 1, 1960	May 1, 1959
	(000)	(000)
Rail	$ 62,105	$ 66,537
Crossties	78,026	84,175
Other Material	410,425	406,833
Scrap	24,155	24,266
Fuel	20,253	23,587
Total	$594,964	$605,398

* Subject to revision.
† All total inventory figures taken from ICC statement M-125 for month indicated.

Philadelphia: Commuter-Aid Pact Signed

Contracts now have been signed in Philadelphia to implement a new commuter-aid program calling for the use of municipal funds to "purchase" low-fare train service from participating railroads. Looking on as Casimir Sienkiewicz, president of the non-profit Passenger Service Improvement Corp., signs the contracts are (left to right) E. Paul Gangewere, Reading president; A. E. Lyon, executive secretary, Railway Labor Executives' Association; Donald C. Wagner, Philadelphia managing director; Walter W. Patchell, PRR vice president; and Victor E. Moore, chairman of Philadelphia's special committee on mass transport.

SUNA Snubs Wage Settlement

The 7,000-member Switchmen's Union of North America last week posed the first real threat to an orderly windup of the remaining rail wage disputes. With all but a few locals reporting, the vote among SUNA's membership was running about 4-to-1 against accepting the pattern offer of a 4%, two-stage increase.

By snubbing the wage settlement which the big four—BLE, BLF&E BRT and ORC&B—have accepted, SUNA is running counter to the recommendations of an emergency board which proposed agreement on the pattern established by arbitration in the BLE dispute.

Only on a few small terminal properties did the membership favor accepting the 4% increase. Switchmen on major lines balloted heavily against settlement.

A union officer said the next step "will be further negotiation. I expect we'll be back in conference at the earliest possible date."

SUNA contends that the emergency board recognized existence of a wage inequity but then recommended that nothing be done now to correct it. Under the proposal submitted to the membership, SUNA would get the pattern—2% July 1 and 2% next March 1—and any inequity question unresolved in future discussions would be submitted to arbitration. In no event could any further adjustment be effective before Nov. 1, 1961.

The Switchmen's rebellion overshadowed another union turndown for another carrier proposal—involving separate meetings with the BLF&E on the fireman-off issue. Chiefs of the five operating unions reaffirmed their stand that the rules notices are "so broad and interrelated . . . that they affect all employees represented by these organizations." All notices, the chiefs said, should be handled in the conferences now set for Sept. 7 in Chicago.

A statement issued following the union chiefs' meeting in Cleveland called the carrier move an "industry effort to split their [the organizations'] solid front in the rules dispute." Carrier proposals had called for a conference with the BLF&E Aug. 30, followed by conferences with all the organizations Sept. 7.

In a letter to the carrier conference committees, the five chiefs declared: "It is not the desire of these organizations to avoid in any way our obligations under the Railway Labor Act. . . . All employees represented by us have an interest in the matters involved and we feel all notices served should be handled in the conference now set for Sept. 7."

Meanwhile, both the BLE and SUNA were planning meetings of general chairmen for last Friday, Aug. 19, the BLE in Cleveland, SUNA in Chicago.

Tri-State Rail Link Proposed for Commuters

A new proposal for solving part of the New York metropolitan area's suburban transit problems was announced last week by consulting engineer S. H. Bingham. In a report submitted to governors of New York, New Jersey and Connecticut, Colonel Bingham described a three-state high-speed commuter system that he says could be built at a cost that would not be prohibitive.

The keystone of the plan outlined in Colonel Bingham's proposal to the governors is use of existing trackage with a minimum of new construction. This would make it possible, the Bingham proposal says, to provide a unified system to the downtown and midtown areas of Manhattan from Bound Brook, New Jersey, Pleasantville and Ossining, New York, and Fairfield, Connecticut, at a cost of approximately $210,000,000. The figure would include the cost of acquiring new lightweight aluminum cars.

In New Jersey, the Bingham proposal envisions a rapid transit line from Bound Brook to Cranford on the Jersey Central and to Pennsylvania Station, Newark, over Lehigh Valley tracks, as recommended in the report to Governor Robert Meyner by the state Division of Railroad Transportation (RA, April 11, p. 36) under which New Jersey is making plans to buy a year's continuation of commuter service at a cost of approximately $6,000,000.

From Newark, the Bingham proposal would use the Hudson & Manhattan Railroad to reach New York. Taking over H&M operations completely, the Bingham proposal calls for service to downtown Manhattan through the present Cortland St. terminal and to uptown Manhattan by the present uptown H&M branch, which would be extended by a new deep rock tunnel three blocks east and eight blocks north to a connection with the tracks of the New York Central at Grand Central Terminal.

For Westchester commuters, Colonel Bingham proposes that the rapid transit line be extended over New York Central tracks to Ossining on the Hudson River and Pleasantville on the Harlem division. For Connecticut commuters, service could be extended over the New Haven route from Grand Central to Fairfield, Connecticut, Colonel Bingham says.

People in the News

CANADIAN NATIONAL.—J. Howard Easton, transport economist, Moncton, N.B., appointed assistant analytical services officer. **Lionel O. Jean,** senior research assistant, Montreal, named cost analyst, Moncton.

CHESAPEAKE & OHIO. — Charles C. Hoover, commercial agent, Miami, Fla., appointed general agent, Beckley, W.Va., succeeding **P. T. Davis,** retired. **W. Russell Johnson** succeeds Mr. Hoover.

CHICAGO GREAT WESTERN.—Thomas G. Kees appointed assistant to vice president, Chicago.

James J. McLaughlin and **Frank P. Wagner** named freight traffic managers, Minneapolis and Chicago, respectively. **Walter Weger** appointed general freight agent, New York.

Frank P. Scharding appointed sales manager, CGW and Iowa Townsite Co., New York.

DULUTH, MISSABE & IRON RANGE.—Silvain Colpaert, assistant signal engineer, Duluth, Minn., appointed signal engineer, succeeding **Harold S. Spindler,** who retired July 31.

GULF, MOBILE & OHIO.—P. E. DeWitt appointed general master mechanic, Mobile, Ala., with jurisdiction over the locomotive and car departments, Southern region, at Mobile. Position of superintendent motive power and car equipment, Southern region, abolished.

ILLINOIS CENTRAL.—Albert T. Evans, general agent, Memphis, Tenn., appointed general freight agent there, effective Sept. 1, succeeding **Forrest F. Lipe,** promoted. **Norman C. Garling** named to replace Mr. Evans.

MILWAUKEE.—John L. Gable appointed to the newly created position of operations research analyst, Chicago. Mr. Gable was formerly senior systems analyst with Collins Radio Co. of Cedar Rapids, Iowa.

MISSOURI PACIFIC.—Melvin P. Eckman, executive representative, Denver, retires Aug. 31

Joseph H. Lang, general agent, Dallas, retires Aug. 31.

MONON.—Arthur H. Vaslie, assistant general freight agent, Chicago, named general freight agent there, succeeding **Bernard E. Widman,** who retires Aug. 31. **Jack Riley** replaces Mr. Vaslie. Effective Sept. 1, **Roy J. Becker** named assistant freight traffic manager, Chicago.

NEW HAVEN.—James C. Rhodes appointed general freight agent, Boston, Mass., succeeding **Edward F. Cunningham,** on leave of absence due to illness.

Elmer C. Simmons, commercial agent, appointed division freight agent, New Haven, succeeding **Joseph L. Matz,** retired.

NEW YORK CENTRAL.—Raymond G. Munroe, district freight salesman, named district coal sales manager, New York, succeeding **Donald J. Wyman,** appointed division freight sales manager, Rochester, N.Y. **Nicholas R. Cosentino,** administrative assistant to director of foreign freight sales, appointed assistant foreign freight sales manager, New York.

NORFOLK & WESTERN.—Meredith W. Plunkett, commercial agent, Lynchburg, Va., appointed general agent there, a new position. **Francis D. Merchant,** commercial agent, Richmond, Va., appointed district freight agent, a new position. **Thomas E. Cutter,** commercial agent, Cincinnati, Ohio, named district freight agent, Columbus, Ohio.

TERMINAL RAILROAD ASSN. OF ST. LOUIS.—H. N. Lee, acting treasurer and paymaster, elected treasurer.

Robb W. James
US&S

John W. Storer
Osmose

Supply Trade

A. M. Wiggins, vice president and general manager, **Union Switch & Signal Division, Westinghouse Air Brake Co.,** retires Sept. 1. **Robb W. James** has been appointed general manager of US&S, effective Aug. 1. Mr. James was formerly executive vice president, National Pneumatic Co. and Holtzer-Cabot Electric Motor and Telephone Divisions in Boston, Mass.

John W. Storer has been named manager of the newly created Railroad Division of **Osmose Wood Preserving Co. of America, Inc.** at Madison, Wis. Mr. Storer was formerly chief of Osmose operations in the Midwest.

Reeves Instrument Corp., Garden City, Long Island, N.Y., subsidiary of Dynamics Corp. of America, has announced appointment of **Current Controls Corp.,** 200 South Michigan Avenue, Chicago, as exclusive sales representative for the Reeves line of electronic YARDMASTER equipment.

Jack E. Fathauer has been appointed product manager, speedloader system, **National Malleable & Steel Castings Co.** Mr. Fathauer was formerly sales manager, railway division, Cleveland district.

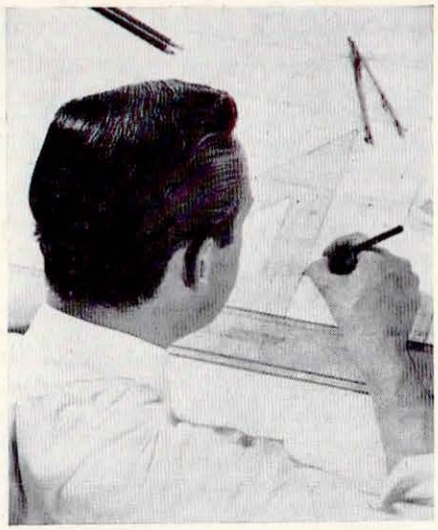
Harlis E. Martin, Charles W. Pearce and **Frank T. Mountjoy** have been appointed technical service representatives for **Oakite Products, Inc.** at Rock Island, Ill., Miami, Fla., and Kansas City, Mo., respectively.

OBITUARY

Henry G. Wild, 70, president of the **Prime Manufacturing Co.,** Milwaukee, Wis., died Aug. 3, after a long illness.

Harold G. Reichel, 53, division freight agent for the **Nickel Plate,** Erie, Pa., died Aug. 6 at Cleveland (Ohio) Clinic.

Loras I. Evans, 59, engineer in charge of budget matters, **Milwaukee,** died Aug. 7 in Michael Reese Hospital, Chicago.



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- ☐ Lineman
- ☐ Wireman
- ☐ Fireman
- ☐ Engineer
- ☐ Draftsman
- ☐ Signal Maintainer
- ☐ Engineering Dept.
- ☐ Mechanical Dept. Office
- ☐ Official, Supervisor, Foreman, Chief Clerk
- ☐ Other (please specify)

Name_____

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City_____ Zone____ State____

EXAMINER RAPS PLANS III, IV *(Continued from page 9)*

the underlying common carriers."

Railroads, Examiner Dahan also said, "can do directly everything they seek to have done indirectly through regulated and unregulated intermediaries . . . except, of course, to quote and accord unpublished rates."

The Plans III and IV rates are flat charges per car, which amount to about 50 cents per car-mile under Plan III, where shippers furnish only the trailers, and 40 cents per car-mile under Plan IV, where they furnish the flat cars, too. On a cents-per-100-lb basis, they range typically from about 11% to 17% of first-class rates, the examiner calculated.

On that showing, he had this comment: "Of more than 12,000 carload ratings in the rail uniform classification, only 10 ratings are lower than 17.5% of first class—one at 16% of first class and the other nine at 13% of first class."

The Class 16 rating applies on sand, mixed with clay, crushed stone and gravel or pebbles, in bulk. The Class 13 ratings apply on lower grades of these and similar commodities. So-called all-freight or all-commodity rates, which are also used extensively by forwarders, have averaged about 45% of first class, Examiner Dahan also pointed out.

Thus, as he put it, the Plans III and IV rates have widened the "spread" on which forwarders operate "to such an extent that the door to Pandora's box has been opened wide." The proposed report added:

"The freight forwarders have expanded the area of their businesses. They have established and intend to further establish volume commodity rates the same as the truckload and carload commodity rates of their underlying motor and rail common carriers. Moreover, the Plan IV rates and charges enable them to undercut motor common carrier rates . . .

"The exempt forwarders, such as shipper associations, consolidators, and the so-called car-leasing companies, have come to flourish. The practices of some such exempt forwarders . . . which are vying for traffic by promiscuous rate quotations and for bids on the traffic of industrial shippers, are, in the least, questionable."

All of which makes the term "rate gimmick" an apt one for the Plan III or Plan IV arrangement, the examiner continued. He went on to say the arrangement was "repugnant" to Sections 2 and 3 of the Interstate Commerce Act and to the Elkins Act.

He explained that "it is something of value which cannot be given to all shippers." And he asserted that railroads generally need no help from shippers in providing piggyback service, because there is no evidence that they are unable to meet all demands for such service. If they do arrange for shipper help, the shipper should be compensated by a published allowance, and this "would avoid any potential rebate and discrimination," Mr. Dahan advised.

He also discussed evidence indicating that Plans III and IV services have involved performance by railroads or their subsidiaries of such services as loading and unloading of trailers. Charges for such services are on contractual bases and not on file with the Commission. That, the examiner said, involves failure to observe tariffs and it also has the effect of converting the operation into a Plan II service which is transportation of piggyback freight in railroad trailers, or in shipper trailers for which a published allowance is paid.

In such cases, the railroads "should proceed immediately to collect their undercharges," since Plans III and IV rates "are substantially lower than the Plan II rates," the proposed report continued. It went on to recommend that the Commission have its Bureau of Inquiry investigate the matter "so as to insure full compliance with the act."

Other specific investigations which the examiner suggested would be inquiries into railroad charges for loading and unloading forwarder box-car freight at New York, and into trip-leasing by the Lackawanna of a shipper's trailers which would otherwise have returned empty. The latter was a "possible-rebate" situation, the examiner said.

As to loading and unloading at New York, the proposed report had figures indicating that the actual cost may be more than twice the tariff charge of $4.09 per ton. "Since this service is one the railroads are not required to perform, but do so as agents of the shipper, the charge therefor must be sufficient to yield a profit," the report said.

In supporting Plans III and IV the railroads cited their "difficulties" in handling forwarder traffic in box cars. Examiner Dahan was "not impressed." He emphasized that the railroads made the present loading and mixing rules. And he said those rules have the effect of increasing railroad costs and revenues while permitting forwarders to improve their service at reduced cost. The proposed report added:

"On the record, there is no excuse whatsoever for the continued maintenance of unprofitable rail rates and charges for loading and unloading the forwarder freight. The evidence indicates that the railroads are performing the consolidation and break-bulk services predominately as agents of the forwarders. If so, why do they not expend the same efforts on their own less-than-carload traffic so as to increase that traffic, thereby reducing unit costs which, in turn, would operate toward reduction in less-than-carload rates, all in the interests of the public . . .

"In this connection, it is to be noted that the freight forwarders' rate structure deters public shippers from using forwarder service from and to small points. Thus, the railroads are left to serve such small points, the service of which is more costly because of a lower volume of traffic. An increase in railroad less-than-carload traffic, especially between principal points, would necessarily reduce their over-all costs and improve their entire less-than-carload service."

Here is where the examiner followed through to his recommendation that the Commission take a look at railroad rates designed primarily for forwarders. Previously he had said that carrier rates "should not be made solely for the purpose of providing an incentive for forwarders, but should consider only the value of the service to the public shipper."

As to railroad contentions that the Plans III and IV arrangements are necessary to meet the competition of private trucking, Examiner Dahan said such competition can be met effectively by adjustments in Plan II and box-car rates. "The only real interest the supporting shippers have in Plan III and Plan IV," he also said, "is the price. Neither Plan III nor Plan IV would supplant Plan II, or even box-car rail service, where the transportation cost to the shipper is lower in Plan II or box-car service."

Meanwhile, Mr. Dahan concedes that railroads need some rate-making freedom to meet the competition. He said the "so-called 'rigidity'" of their rate structure "is of their own choosing." He identified the truck competition they want to meet as that in the "volume" area—between LCL and carload lots.

"They are not precluded from the establishment of rates to cover such traffic, and in Plan II they are able to furnish door-to-door service," Mr. Dahan added.

Shippers, other than forwarders and shipper associations, seem to have found the Plans III and IV unattractive principally because of tariff provisions which limit the weight of any one commodity which can be loaded into the trailers. Though designed to prevent diversion of box-car traffic, the limitation is as much of a deterrent to the

gaining of private carrier traffic, the examiner said.

On a cost basis, he found "some indication" that the Plan III rates in issue are about on a level with costs of line-haul trucking. They are thus attractive to forwarders who can use them to compete with truckers, though they are prohibited from conducting intercity trucking operations themselves.

From the standpoint of railroad costs, the evidence indicated that the Plans III and IV rates exceed out-of-pocket costs and provide a contribution to overhead. The proposed report's discussion of the cost evidence, however, pointed up the examiner's view that the railroads had failed in that respect "to produce a comprehensive picture of what they are trying to do." He explained:

"Today's transport flourishes in a volatile economic climate. A market that receives huge quantities of freight one year may disappear the next, and in such an economy the carriers should stop playing Russian roulette with their constant costs. They should know with a reasonable degree of particularity and be prepared to show which segments of their traffic will, if their judgment is correct, pay their constant costs. When they fail in this duty, they should not be heard to complain when the Commission in a competitive rate case pegs rates at some designated point on an admittedly inadequate fully distributed cost scale."

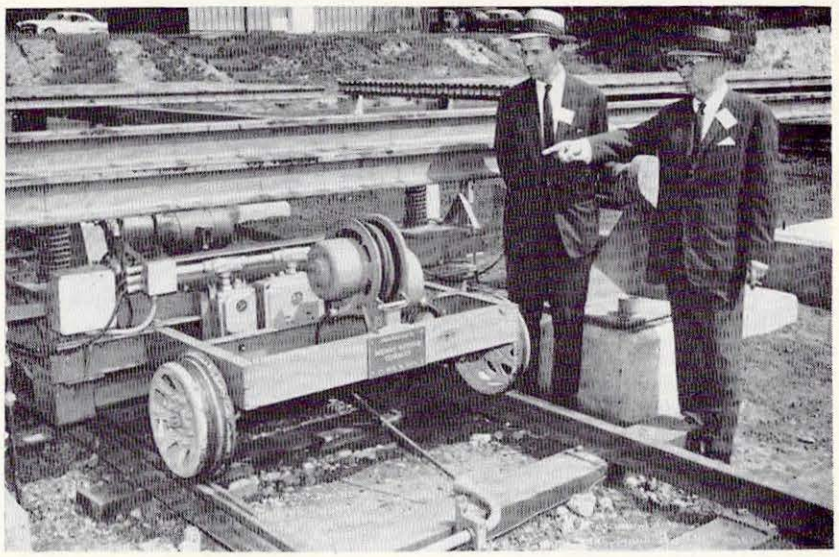
The forwarder volume rates, which the examiner would have the Commission clear, are assailed as discriminatory as between localities and as offering services which do not fall within the Interstate Commerce Act's definition of forwarding. As to the latter, the examiner cited the Commission's previous ruling that forwarders are not confined to the handling of small shipments.

He went on to say the "traditional" handling of small shipments by freight forwarders resulted from a narrower spread than now exists between LCL and carload rates. Thus, he advised, any complaint "might better be directed against the underlying motor and rail rates so as to determine whether the present spread is a reasonable one."

As to allegations that the volume rates are discriminatory, Mr. Dahan said "the exercise of geographical selectivity by forwarders has been sanctioned by the Commission." His comment on the traffic-selectivity phase gave him another shot at the carrier rates. That selectivity, he said, "stems solely from the rate structure of the underlying rail, motor and water common carriers."

Welding Plants Dedicated

WELDING PLANT of Matisa Railweld, Inc., at Bessemer, Ala. Production line, on which rails move from left to right as they are welded, is on other side of rail storage piles in foreground. Plant is currently producing long welded rails for the Central of Georgia and the Frisco.



RAILS entering production line of Linde Company's welding plant at Harrisburg, Pa., are positioned by this automatic rail-handling car. Men are W. B. Nicholson (left), president of Linde Company, and W. S. Winn, manager of its Oxweld Railroad Department.

Two fixed plants for converting standard-length rails into long welded lengths were dedicated on July 28 at widely separated points. One is a plant established by the Linde Company at Harrisburg, Pa., to weld new rails produced at Bethlehem Steel Company's Steelton mill. The other is a plant constructed by Matisa Railweld, Inc., at Bessemer, Ala., to weld new rails produced by the Tennessee Coal & Iron Division of U. S. Steel at its plant at Ensley, Ala. In each instance, the dedication, with representatives of the welding companies, steel companies, interested railroads and municipalities participating, included an inspection of the new facility in operation.

You Ought To Know...

Transcontinental sleeping car service in Canada will be cut back to one daily train on each of the two major roads, effective Sept. 24. The CPR's "Canadian" and the CNR's "Super Continental" will continue to offer present transcontinental accommodations, but the CPR's "Dominion" and CNR's "Continental" will handle only coach, mail and express traffic plus sleeping car accommodations in certain local areas only. Announcement of the change was made in a joint statement by presidents of the two roads last week.

Use of prop-jet air freighters may bring rates as low as $6 to $8 per hundred pounds for a coast-to-coast flight. The present average is about $19. Far lower costs of prop-jet operation will make the reductions possible, according to a top officer of Flying Tiger (which has a fleet of Canadair CL-44s on order).

A stripped-down version of General American's G-85 piggyback car will go into production next month. Designed for use with removable auto frames, the car (designated C-85) is basically a G-85 with its shock absorber mechanism but without trailer stanchions; guide rail; bridging plate, rail and rail seat and their mechanisms. Modifications cut almost 15% from the cost of a standard G-85. Piggybacking gear can be added if and when the car is needed for regular TOFC service.

Illinois Central this month marks the completion of 40 years of monthly advertising in on-line newspapers. IC's "investment in understanding" has appeared in all on-line newspapers in 346 cities and towns each month since September 1920 following the end of federal control of the railroads after World War I.

A continued temperate approach to the work rules dispute seems to be BLE policy under new Grand Chief Roy E. Davidson. Like Guy L. Brown, his predecessor, Mr. Davidson declares that the BLE and other unions have "no intention of permitting any reduction in the standard of living of the men we represent. But as responsible organizations we have an obligation to study this question of how modern our agreements are. We must be able to justify each and every rule on the basis of today's operation conditions, not on the basis of how trains were run 40 years ago or more."

An 80-acre Transportation Section, to be developed and operated on a self-supporting basis by the Port of New York Authority, is planned for the 1964-65 New York World's Fair. Exhibitors may erect their own buildings on leased sites. A building for the common use of a number of exhibitors will be constructed if necessary.

A $500,000 grant has been made by the Ford Foundation to the RAND Corp. of Santa Monica, Calif., for a three-year exploratory study of U. S. urban transportation. The grant is intended to "stimulate long-range planning and development in urban transportation, both in the transportation industry itself and in local and federal government." RAND is a private, nonprofit research and development organization.

Wheat loadings in MoPac territory are up about 23%—an increase of more than 3,000 cars for MP over actual loadings last year. Total winter wheat production is estimated as the second largest crop on record, topping last year's by 18%.

A system-wide strike of some 18,000 maintenance and shop employees represented by the Transport Workers Union may hit the Pennsylvania Sept. 1. With all strike-preventing legal steps exhausted, a PRR spokesman indicated the walkout might take place—but expressed the hope it wouldn't last long. At issue is a three-year dispute on job classifications and work rules.

Railroad employment in mid-July stood at 794,140—6.03% below July 1959. Biggest drop was among maintenance of way and structures employees, 8.05%.

One steel road strike was settled in Pittsburgh last week, just a few days before another one broke out. The BRT and the Monongahela Connecting reached agreement after a two-day walkout shut down the railroad and, consequently, Jones & Laughlin Steel Corp.'s operations. Then, on Aug. 18, 1,100 members of the United Steelworkers (non-operating employees) struck the Union Railroad in a wage dispute. URR has offered settlement on terms already accepted by the BLE, but the Steelworkers are holding out for settlement on the Big Steel pattern.

Entries are now being received for the tenth annual "Golden Spike" advertising awards competition. The Association of Railroad Advertising Managers presents the award for the most outstanding advertising contribution to a better understanding of the importance of railroads or the promotion of rail freight or passenger traffic.

A color motion-picture film will be produced by Southern Illinois University in cooperation with the National Defense Transportation Association. Purposes of the film: to dispel popular misconceptions about transportation, encourage young people to seek careers in the industry, and stimulate interest in transportation education.

No passenger was killed but 110 were injured in June's train and train-service accidents, according to the ICC's preliminary summary. Passenger injuries were the same in June 1959, when there was one passenger fatality. In this year's first six months, the passenger fatalities totaled 24 and the injuries 805. In last year's first half, seven passengers were killed and 655 injured. Ninety-eight employees on duty were killed in this year's first six months, compared with 85 employee fatalities in the same period last year. June's employee fatalities totaled 14, compared with 12 in June 1959.

Another "FIRST" by

XTRA !

Refrigerator "Piggyback" Trailers

1 With No Mechanical Moving Parts.
2 With No Chemicals or Gases In The Trailer.
3 Below Zero Temperature—40 Hours.
4 Below Freezing Temperature — 60 Hours.
5 Automatic Pin-Point Temperature Control.
6 No Attendance Or Maintenance While Enroute.
7 Fuel Expense — Less Cost Per Mile Than Conventional Systems.

This equipment will be made available to railroads concurring in XTRA's per diem plan without obligation. Fifteen linking railroads now concur in XTRA's per diem plan—coast to coast through the largest industrial cities in America and Canada. No investment, contract or guarantee is required of concurring railroads to participate in the use of XTRA's continually growing fleet of Piggyback Trailers and Containers.

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Best Prescription Yet

The most perceptive statement yet to appear—summarizing in detail the serious errors in the federal government's dealing with transportation, and the action necessary to correct these errors—has been published under the imprint of the Department of Commerce. The document is a 72-page pamphlet (price 30 cents) entitled "Rationale of Federal Transportation Policy". The authors are Ernest W. Williams, Jr., and David W. Bluestone—who headed the "study staff" for the recent Commerce Department report on transportation policy (RA, March 28, p. 82).

This new document does not have "official" status, but reflects instead "the considered views" of the study staff. It is no surprise that this staff document is a much more adequate and sensible job than the official report which preceded it.

Here are some of the observations and recommendations of Messrs. Williams and Bluestone:

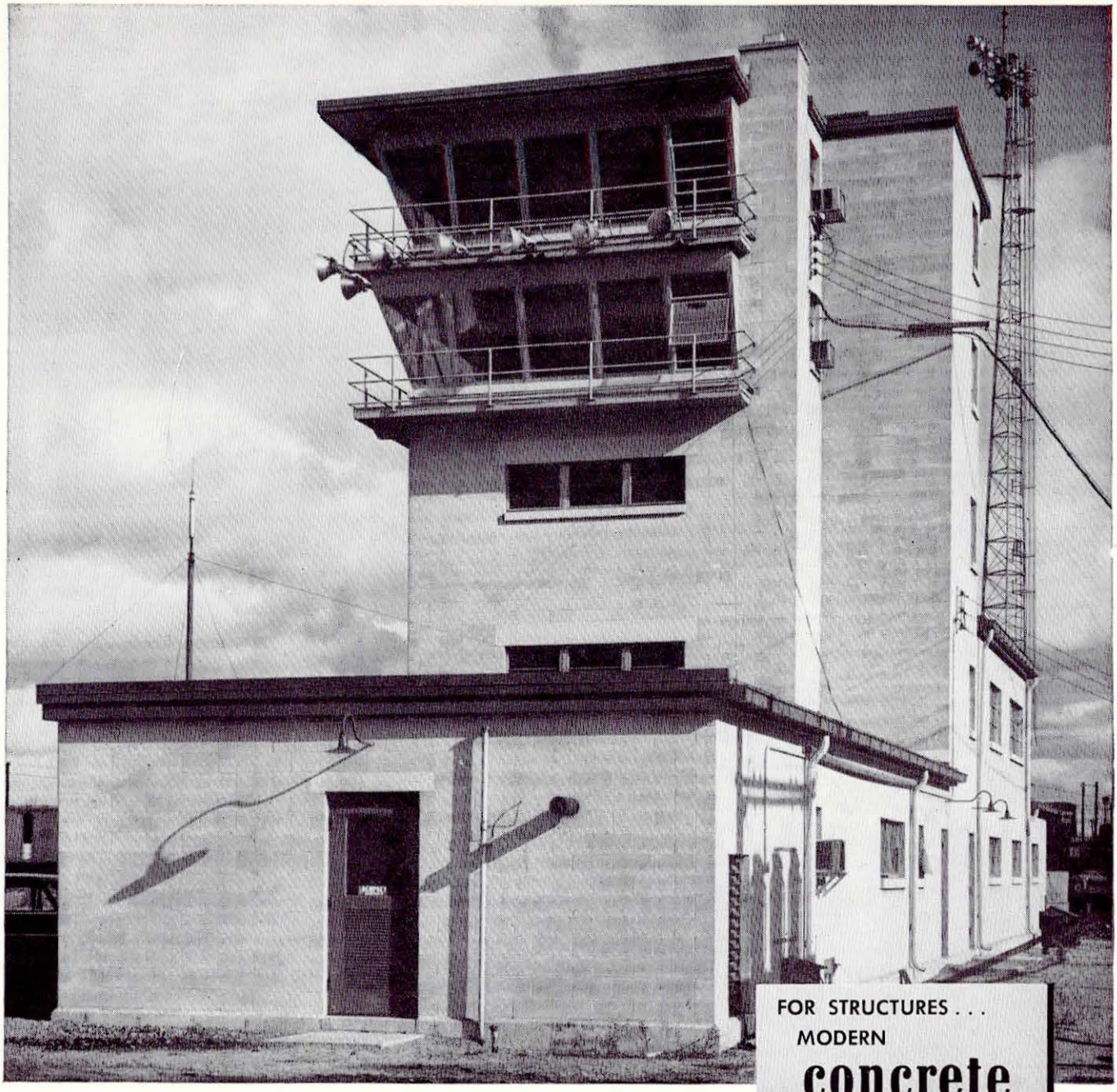
- The nation would save several billions of dollars annually, if freight traffic were distributed in accordance with "the true comparative advantage of the several forms of transport".
- National efficiency in transportation "requires that traffic be distributed among motor carriers, railroads, water carriers, pipelines and air carriers in such a way that each type receives the traffic which it can carry with least consumption of economic resources". It requires also that the several forms of transportation be used in combination, where the result is "a better service/cost result than a single form working alone".
- When government "bears part of the cost of carriers which use government-furnished facilities, these carriers can offer relatively low rates and attract traffic that would otherwise move by other transport modes". For example, "motor carriers, water carriers or air carriers may expand when it is more economical to have increased transport demand met by expansion of railroads or pipelines".
- Present government policy of favoring some carriers (e.g., by paying part of their costs and supplying most of their plant investment) not only distorts the economy of transportation, but also that of production. This follows because, "commodities peculiarly suited to transport by carriers using 'free' government-furnished facilities will tend to increase relative to the production of other types of goods".
- The imposition of equitable user charges would cause carriers using publicly provided facilities to raise their rates to a level more nearly approaching their true economic costs, and this change would mean that prices of goods moved on government-owned transportation plant would be placed on a basis more nearly resembling the pricing of other goods. Having full production costs reflected in the prices of goods "would tend to produce *a closer adjustment of production to consumer choices, the goal of a private enterprise economy*". (Emphasis supplied.)
- The failure of the federal government, thus far, to correct the conditions outlined above has resulted in lack of new investment adequate to keep the railroads up-to-date. "A railroad built to the standards attainable today for the handling of a heavy flow of traffic could achieve large economies. . . . It is important that the railroad system be upgraded toward such standards as rapidly as possible".

The foregoing are by no means all of the authors' important observations and recommendations. Among other goals, they favor a far-reaching program, under federal government leadership, for the developing of more satisfactory cost information on the several forms of transportation. They urge a "census of transportation repeated at intervals", and general relaxation of regulation because, "as the automatic regulator of competition is expanded, the artificial regulator of the government should be contracted."

These are some minor details of this remarkably able and penetrating prescription that may be controversial—but such details are insignificant in relation to the superior understanding manifest by the document as a whole.

Every responsible railroader, supplier and shipper—and every professional economist—should have his own copy of this publication, to read and re-read until its comprehensive message is fully absorbed. If the conclusions set forth are acted upon, the nation's transportation system will inevitably be converted from wasteful chaos into economic order; and the railroads will enter upon a new period of growth and prosperity.

But no prescription, however wisely formulated, has any value until it is actually compounded and administered to the patient.



New York Central's Frontier Yard, East Buffalo, N.Y.

New York Central builds 48-foot tower with modern concrete masonry!

The New York Central has built three towers similar to this one. Five stories high, this retarder tower is one of the highest buildings in the country with bearing walls of concrete masonry. Its floors—both precast and cast-in-place lightweight concrete—frame into the masonry walls built to carry the load.

All-concrete construction provides a building which is weather-tight, strong and long lasting. There will be little upkeep for the life of the structure. And—the best kind of insurance—concrete is fire resistant.

The New York Central's use of concrete masonry towers (painted pastel colors) is just one way progressive railroads use concrete to get construction versatility and lower costs.

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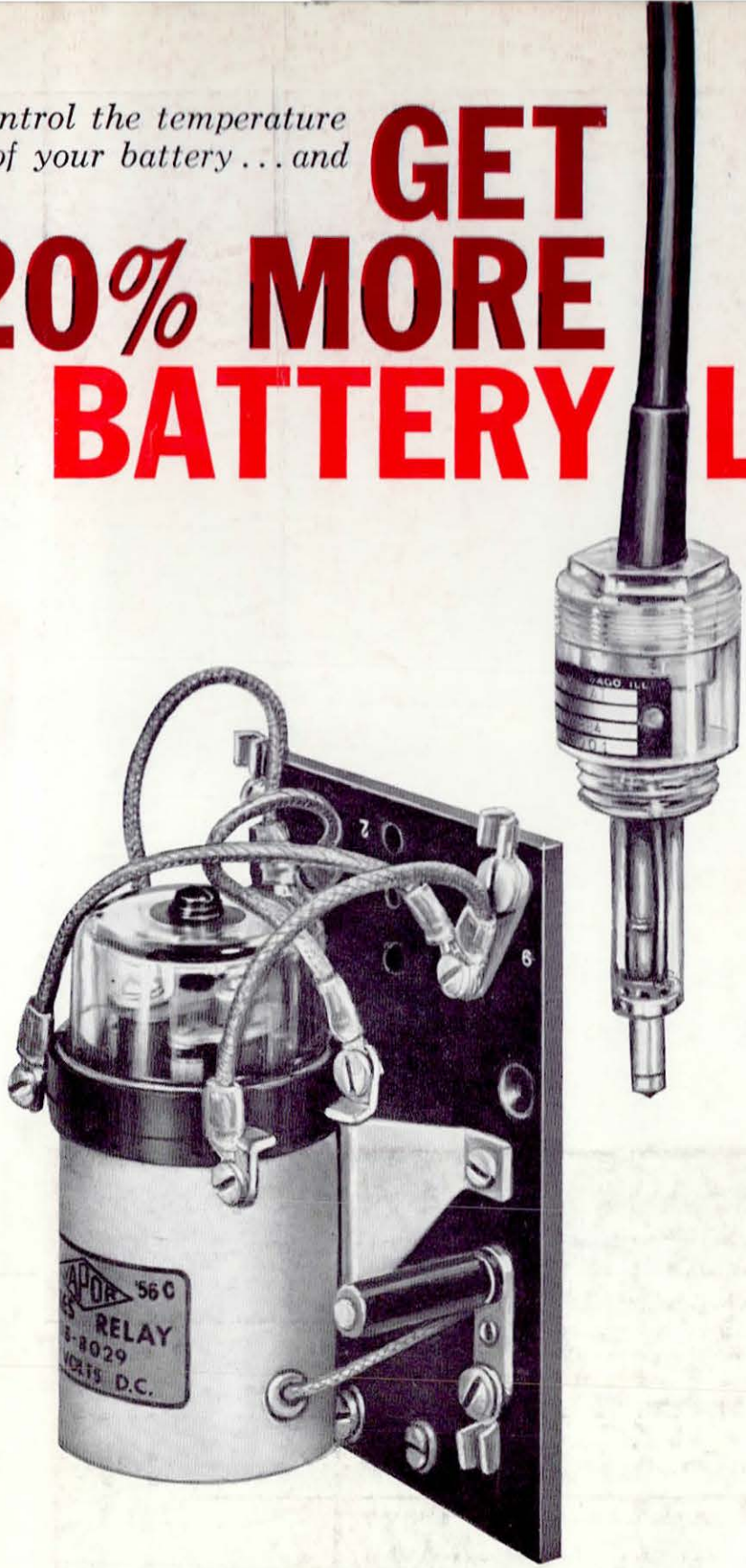

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For further information, ask your Vapor representative, or write for Bulletin No. 1334

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